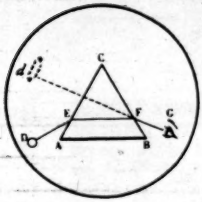

optics and spectroscopy

volume xxxvi

1974

OPTICAL SOCIETY OF AMERICA

USSR ACADEMY OF SCIENCES

Optics and Spectroscopy Vol. 36, No. 1, January 1974
(Russian original: Optika I Spektroscopiya, Vol. 36, No. 1, pp. 3-125, January 1974)

1	(3)	Effect of strong radiation on a quantum sistem with degenerate levels	P.A. Apanasevich and B.D. Fainberg
4	(8)	Intrashell transitions in the spectra of multiply charged titanium ions (Ti XV – Ti XIX)	Yu. S. Kasyanov, E. Ya. Kononov, V.V. Korobkin, K.N. Koshelev, A. N. Ryabtsev, R. V. Serov, and E. V. Skokan
7	(14)	Oscillator strengths and photoionization cross sections of alkali-like ions	V. P. Shevelko
10	(18)	Broadening by inert gases of europium lines due to $a^8_{7/2} - y^8 P_{9/2, 7/2, 5/2}$ transitions	N.P. Penkin and L.N. Shabanova
13	(23)	Potentials for the interaction between certain metal atoms and inert gas atoms	L. N. Shabanova
16	(29)	Excitation of Ar II, Kr II, and Xe II ions by He and Ne metastable atoms in the afterglow of a glow discharge	O.P. Bochkova, I. A. Zubkova, and S. E. Frish
19	(36)	Collisions of the second kind in the afterglow of a discharge in a mixture of argon and nitrogen	O.P. Bochkova, N. V. Chernysheva, and Yu. A. Tolmachev
22	(40)	Plasma production by photoionization of a gas	I.V. Dvornikov, L.V. Kulagina, I.V. Podmoshenskii, and A.V. Yakovleva
24	(44)	Continuous spectrum of a pulsed discharge in helium	M.A. Mazing and V.A. Slemzin
28	(50)	Excitation of atomic lines in the positive column of a stratified discharge in hydrogen	Yu. M. Kagan and N.K. Mitrofanov
32	(57)	Possibility of determining the recombination and diffusion coefficients by the low impurity method	M.N. Polyanskii, N.V. Remizov, V.N. Skrebov, and A.M. Shukhtin
35	(61)	Parameters of loosely bound molecular ions	L. Ya. Efremenkova, A.A. Radsig, and B.M. Smirnov
39	(69)	Reduction of the rotational Hamiltonian of molecules of the asymmetric rotor type	V.N. Bryukhanov and Yu. S. Makushkin
41	(73)	Effect of intermolecular interactions on the vibrational spectra of molecules. 12: Statistical character of the manifestation of intermolecular forces and rotational motion in the shape of vibrational-rotational bands of simple molecules in solution	G.I. Baranova, P.I. Zelikman, and N.G. Bakhshiev
46	(81)	Separation of the contributions from universal interactions and intermolecular hydrogen bonds to the observed shifts of electronic bands. 3: Study of the $n \rightarrow \sigma^*$ band of certain aliphatic ketones	G. Ya. Zelikina and T.G. Meister
49	(85)	Nature of centers of quasi-line absorption and fluorescence in frozen n-paraffin solutions of aromatic compounds. 1: Occurrence of interactions between molecules of the dissolved substance and centers of quasi-line absorption.	G.V. Kleshchev, A.I. Lyamaev, L.A. Mishina, and L.A. Nakhimovskaya

(continued on page ii)

52 (90) New data on the quasilinear fluorescence spectrum of anthracene vapor . . . . . S.O. Mirumyants, E.A. Vanbynkov, Yu.S. Demchuk, and Yu. S. Nagulin

55 (96) Nature of the shift in the absorption and fluorescence spectra of some rhodamines on variation of their concentration in solution and of the acidity of the solvent . . M.I. Snegov, I.I. Reznikova, and A.S. Cherkasov

58 (100) Luminescence kinetics of solid solutions with energy transfer. I. Energy transfer by dipole-dipole interaction . . . . . M.M. Rikenglaz and I.M. Rozman

61 (106) Luminescence kinetics of solid solutions when energy transfer occurs 2: Transfer by exchange interaction . . . M.M. Rikenglaz and I.M. Rozman

65 (115) Determination of the polarization of electronic transitions in molecules of low symmetry by the dichroism method. 2: Monosubstituted naphthalenes . . . K.R. Popov

67 (119) Scintillation mechanism in NaI — Tl . . . . . I.R. Gulakov and A.N. Pertsev

70 (124) Thermoluminescence of $Y_3Al_5O_{12}$ — RE crystals . . . S. Kh. Botygov, Y.K. Voronko, B.I. Denker, and V.S. RadyvKhin

72 (127) Spectra of f-f transitions of the Eu^{2+} ion in $KMgF_3$ and $NaMgF_3$ crystals . . . . . N.S. Altshuler, L.D. Livanova and A.L. Stolov

76 (133) Optical constants for the region of CuI exciton absorption . . . . . L.A. Ageev, V.K. Miloslavskii, and T.I. Maksimenko

80 (139) Electroabsorption of polarized light in the region of the yellow exciton series of a Cu_2 crystal; a theory . . . A.G. Zhilich and B.S. Monozon

83 (145) Absorption and luminescence excitation spectra of KI — Ag, K_2AgI_3, and AgI . . . . . I.V. Nedzvetskaya

86 (150) Raman scattering in crystalline chlorine and bromine . . . I.V. Aleksandrov, Ya. S. Bobovich, A.V. Bortkevich, and M. Ya. Tsenter

90 (158) Absorption in thin layers of thallium chloride . . . . . I.S. Bobkova and N.I. Ivanova

93 (163) Vibration spectrum and optical constants of $ZnGeP_2$ single crystals . . . . . Yu. F. Markov, V.S. Grigoreva, B.S. Zadokhin, and T.V. Rybakova

96 (167) Optical activity and optical and magnetooptical studies of NaClcrystals containing colloid centers . . . . V.V. Golubtsov, A.E. Glauberman, and A.B. Goldenberg

99 (173) Photoelectron spectra of a number of substitution products of thiophosphoryl chloride . . . . . V.I. Vovna, S.N. Lopatin, R. Pettsold, F.I. Vilesov, and M.E. Akopyan

103 (179) Spectrum of a laser with an additional mirror . . . . . N.N. Rozanov

106 (183) Rapid spectroscopy using lasers with swept lasing frequency . . . . . S.P. Anokhov, V.I. Kravchenko, and M.S. Soskin

(continued on page iii)

109 (188) Design of laser polarizers based on total internal reflection. . . . . Yu. A. Nestrizhenko

112 (192) Characteristics of second-harmonic intensity distribution at the output of a linearly inhomogeneous medium . . . . . O.F. Butyagin, A.A. Kazakov, and E.A. Kolyushenko

116 (199) Ellipsometric method for measuring optical constants and thickness of thin absorbing films on metal substrates . . . . . I.N. Shklyarevskii, A.F.A. El Shazli, R.G. Yarovaya, and V.P. Kostyuk

SHORT COMMUNICATIONS

119 (205) Variation of scattering power of molecules in binary mixtures for Raman scattering . . . . . N.K. Sidorov and L.S. Stalmakhova

121 (208) Double-beam three-plate interferometer with polarizing elements . . . . . V. Kh. Goikman, G.M. Izakson, and V.A. Moskalev

122 (209) Luminescence and color centers in LiF single crystals under X-ray excitation . . . . . N.N. Ershov, G.M. Zakharov, T.I. Nikitinskaya, and P.A. Rodnyi

123 (211) Absorption and luminescence spectra of the 4152-Å system in diamond crystals using the modulation technique . . . . . D.S. Nedzvetskii and V.A. Gaisin

OPTICS AND SPECTROSCOPY **Vol. 36, No. 2, February 1974**
(Russian original: Optika I Spektroskopiya, Vol. 36, No. 2, February 1974)

127 (217)	Equilibrium radiation in a finite-size cavity	A.A. Kolokolov and G.V. Skrotskiĭ
130 (221)	Calculation of transition probabilities between the $3p^5ns$-$3p^54p$ configurations of Ar I from gyromagnetic rations	G.P. Anisimova and R.I. Semenov
132 (226)	Temperature dependence of diffusion coefficients of excited $6^3P_{0,2}$ mercury atoms in mercury vapor	N.P. Penkin and T.P. Radko
136 (234)	A distinctive feature of the absorption function of an isolated spectral line with a dispersion profile	D.S. Ermakov
138 (238)	Level crossover in the ground and excited states in a zero field during alignment of H_9^{201} atoms by the 2537Å line	L.N. Novikov and S.L. Votyakov
141 (244)	Two-photon ionization of H_2^+	V.A. Davydkin and L.P. Rapoport
145 (250)	Doubling of excitation in the case of thermal collision of resonantly excited cesium atoms	V.M. Borodin and I.V. Komarov
150 (258)	Population of highly excited mercury levels in the case of collision of two excited atoms in the 6^3P_{012} states	O.P. Bochkova, E. Gamarts, and Yu.A. Tolmachev
152 (262)	Broadening and shift of the 0.63-μm neon line under the action of the discharge current	Im Tkhek-de, V.P. Kochanov, S.G. Rautian, E.G. Saprykin, and A.M. Shalagin
155 (267)	Possibility of determining the parameters of an optically dense inhomogeneous low-temperature plasma using the integral emission intensities of self-reversed lines	I.A. Vasileva, B.Ya. Shumyatskiĭ, and D.N. Yundev
159 (275)	Calculation of the g-factor anisotropy in the approximation of total neglect of differential overlapping while including spin-orbital interaction	B.F. Minaev
162 (280)	Restoration of optical spectra and other nonnegative functions by the statistic regularization method	V.F. Turchin and L.S. Turovtseva
166 (288)	Use of the regularization method for determining the true profiles of spectral lines	I.D. Molodenkova and I.V. Kovalev
168 (292)	Some regularities in the vibrational structure of the fluorescence and absorption spectra of aromatic hydrocarbon molecules	T.N. Bolotnikova and O.F. Elnikova
172 (299)	Molecular constants of hydrogen peroxide. 4: Structural parameters	G.A. Khachkuruzov and I.N. Przhevalskiĭ
175 (304)	Molecular constants of hydrogen peroxide. 5: Force constants	I.N. Przhevalskiĭ and G.A. Khachkuruzov
178 (309)	Determination of a correlation function for frequency fluctuations from absorption measurements in far wings of the lines	A.P. Galtsev
181 (315)	Rotational spectra of dipolar-unstable symmetrical polyatomic systems	I.B. Bersuker, I.Ya. Ogurtsov, and Yu.V. Shaparev

(continued on page ii)

185 (322) Effect of intermolecular interactions on the vibrational spectra of molecules. 13: Intensities and frequencies of the ir band of the antisymmetric stretching vibration of CS_2

189 (328) Hot vibronic transitions and lifetimes of the vibrational states of the perylene molecule . . . . . T.B. Tamm and P.M. Saari

193 (335) Triplet-triplet energy transfer and radiationless processes in nonluminescing metalloporphyrin molecules . . . . . M.P. Tsvirko, K.N. Solovev, and V.V. Sapunov

196 (340) Role of the anharmonicity of H_2O intramolecular vibrations in nonradiative deactivation of the excited states of rare earth ions . . . . . E.N. Bodunov and E.B. Sveshnikova

200 (347) Transfer of electronic excitation energy in a liquid solution. 4: Transfer due to exchange interaction . . . . . L.V. Mikava and I.M. Rozman

203 (352) Luminescence kinetics of rigid solutions with energy transfer. 4: The law of luminescence decay of the acceptor for the transfer due to dipole-dipole interaction . M.S. Mikhelashvili, I.M. Rozman, and T.S. Tsulaya

205 (355) Parametric scattering of electromagnetic radiation by plasmons . . . . . V.A. Bushuev

209 (361) Energy spectrum and annihilation characteristics of a positronium atom in ionic crystals . . . . . E.P. Prokopev

213 (368) Linear stark effect in the spectra of fluorapative crystals activated with rare-earth ions . . . . . A.A. Kaplyanskiĭ, V.N. Medvedev, and A.P. Skvortsov

217 (375) Molecular scattering of light in liquid dioxane . . . . . Sh.O. Otazhonov, A.A. Aivazova, and B.M. Nosenko

219 (379) Effect of gas pressure on low-frequency beats in a He-Ne laser . . . . . E.Yu. Andreeva, S.N. Gulyaev, and D.K. Terekhin

221 (382) Lasing line shapes in the $3s_2-2p_4$ and $2s_2-2p_4$ transitions of He-Ne laser . . . . . G.V. Melekhin

223 (386) Using nonlinear effects in a gas laser to measure isotope shift . . . . . A.P. Voitovich and A.P. Shkadarevich

226 (392) Intermolecular interactions and the stimulated emission spectra of activated liquid systems. 3: . . . . . V.I. Studenov and N.G. Bakhshiev

229 (398) Radiation of lasers with controllable phototropic shutters . . . . . G.N. Vinokurov and V.E. Terentev

233 (405) Near-threshold ruby laser under passive Q-switching . . . V.L. Bogdanov and V.P. Klochkov

236 (410) Propagation of laser radiation in randomly magnetized ferrite garnets . . . . . A.A. Solomko and V.I. Mykityuk

238 (414(A method of holographic interferometry with discrete illumination of a three-dimensional phase object . . . . V.T. Chernykh and A.F. Belozerov

240 (418) Gain in Fourier spectrometry . . . . . V.I. Tsoi and T.N. Sokolova

242 (421) Relationships characterizing the optical properties of dielectric narrow-band interference filters . . . . . Sh.A. Furman

(continued on page iii)

SHORT COMMUNICATIONS

245 (427) Discrete deflector of polychromatic light . . . . . E.I. Golovanevskiĭ, S.A. Konovalova, and V.N. Churilovskiĭ

246 (429) Dependence of optical absorption of sodium borate glass on the electron irradiation dose . . . . . V.G. Vakhromeev and S.P. Zinoveva

247 (430) Low-frequency beats in the emission of a cw argon laser in a magnetic field . . . . . A.E. Fotiadi and S.A. Fridrikhov

248 (432) Study of vibrational relaxation of carbon dioxide in He, Ar, and Xe mixtures using the spectrophone method . . E.N. Rityn

250 (434) Vibrational relaxation of the nitrous oxide molecule . . . P.V. Slobodskaya

251 (436) Photoelectron spectra and the structure of molecular orbitals of methyl amines . . . . . V.I. Vovna and F.I. Vilesov

253 (438) Collision depolarization of optically oriented Xe atoms in a metastable $^3P_2$ state at nitrogen and room temperatures. . . . . R.A. Zhitnikov and A.I. Okunevich

OPTICS AND SPECTROSCOPY Vol. 36, No. 3, March 1974
(Russian original: Optika i Spektroscopiya, Vol. 36, No. 3, pp. 441-620, March 1974)

255 (441)	System of Hartree-type equations for quasi-stationary states. Calculation of the energy and width of levels of doubly excited helium	V.V. Kuchinskii
258 (446)	Cross sections for electron-impact excitation and mixing of the $6^3P_{0,1,2}$ levels of a mercury atom	N.P. Penkin and T.P. Redko
262 (453)	Ecitation of metastable levels in np^2 configurations	P.A. Bokhan and G.S. Kiyashkina
265 (458)	Determination of the rotational temperature from the intensity of electronic-vibrational bands in spectra with unresolved rotational structure	D.I. Slovetskii and A.S. Sokolov
267 (462)	Infrared emission of carbon dioxide in the 3000-8500 K temperature range	A.A. Konkov and A.V. Vorontsov
271 (469)	Energy operator for an effective semirigid rotator	V.N. Bryukhanov and Yu.S. Makushkin
274 (475)	Determination of the potential surface and analysis of the anharmonic vibrations of the water molecule	L.A. Gribov and G.V. Khovrin
277 (481)	Calculation of the vibrational spectra of methyl propionate and ethyl propionate	V.I. Vakhylueva, N.A. Kuznetsov, L.M. Sverdlov, and A.L. Smolyanskii
280 (486)	Spectral composition of stimulated Raman scattering of nitric acid aqueous solutions as a function of pumping level	I.I. Kondilenko, P.A. Korotkov, and V.I. Malyi
283 (491)	Luminescence spectrum kinetics of polar solutions	Yu.T. Mazurenko
287 (497)	Quenching of luminescence when migration of excitation in solid solutions is present	L.D. Zusman
290 (503)	Concentration quenching of luminescence in alcohol solutions of rhodamine dyes	L.V. Levshin, E.Yu. Bekhli, T.D. Slavnova, and V.I. Yuzhakov
294 (509)	Luminescence kinetics of the dissociated forms of europium benzoylacetonate. Part 2	R.A. Puko, V.S. Khomenko, V.V. Kuznetsova, N.N. Mitkina, and T.I. Razvina
298 (515)	Nature of the quasi-line absorption and fluorescence centers in frozen n-paraffin solutions of aromatic compounds. 2: Spatial separation of the types of center	L.A. Mishina and L.A. Nakhimovskaya
300 (518)	Quantitative study of the vibronic structure of the absorption spectrum of a naphthalene crystal	I.P. Terenetskaya
304 (525)	The manifestation of structural defects in the infrared spectrum of crystalline naphthalene	G.A. Ginet and A.V. Sechkarev
307 (531)	Sharp resonances in a two-frequency gas laser	S.N. Bagaev, A.K. Dmitriev, and V.P. Chebotaev
311 (539)	Frequency splitting of the oppositely traveling waves in a ring laser with a Gaussian diaphragm	V.F. Boitsov, T.A. Murina, and E.E. Fradkin
315 (546)	Polarization and statistical properties of laser emission from the $J = 1 \rightarrow J = 0$ transition	V.S. Smirnov and A.M. Tumaikin
318 (552)	Effect of small perturbations on the polarization of single-mode laser radiation with a homogeneous lasing transition line	I.P. Mazanko
321 (557)	Efficient polarization of laser radiation by a prism with small birefringence	Yu.A. Nestrizhenko, O.G. Dalchenko, A.P. Pyatikop, and V.V. Shevchenko
324 (561)	Diffraction losses of open resonators	M.M. Popov
328 (567)	Field in a cavity with two quasi-quarter-wave plates	M.A. Gubin, G.I. Kozin, and E.D. Protsenko
331 (572)	Resonance properties of a three-mirror multiple-beam interferometer	V.Ya. Balakhanov, V.K. Zhivotov, M.R. Krotov, A.R. Striganov, and M.D. Suleimenov

(continued on page ii)

335 (579) Transient optical second-harmonic excitation with phase mismatch — G.V. Krivoshchekov, N.G. Nikulin, and V.I. Stroganov
338 (585) Possibility of changing the frequency of dispersion matching by varying the angles between the directions of parametrically interacting waves — A.A. Babin, Yu.N. Belyaev, V.M. Fortus, and G.I. Freidman
340 (589) Synthesis of multilayer optical coatings — Sh.A. Furman and E.G. Stolov

SHORT COMMUNICATIONS

343 (595) Anamorphotic properties of holographic optical elements — G.N. Buinov and K.S. Mustafin
344 (596) Absorption spectra of bases of nucleic acids (110—300 nm) and their luminescence excited in the vacuum ultraviolet region — I.P. Vinogradov, V.V. Zemskikh, and N.Ya. Dononova
346 (599) Measurement of birefringence using the interference of polarized beams in crystals at a point $\Delta n = 0$ in the transparent region — A.V. Shaldin and D.A. Belogurov
346 (600) Diffraction on the entrance face plane of an optic fiber — L.M. Kuchikyan
347 (601) Excitation of CH_4 and C_2H_2 molecules by electron impact — V.T. Koppe, N.P. Danilevskii, A.G. Koval, and D.V. Pilipenko
348 (603) Unsynchronized two-mode lasing in a gas ring laser — V.A. Sokolov and E.E. Fradkin
350 (605) Nonlinear absorption of a weak field in an intense field in resonance fluorescence — T.Ya. Popova
351 (606) Determination of the signs of the electrooptical parameters from experimental data on dipole moments — V.M. Mikhailov and M.R. Aliev
352 (608) Holographic synthesis of the aperture of a composite objective — Yu.E. Kuzilin and V.N. Sintsov
354 (611) Optical absorption in the long-wavelength region and paramagnetism of polymers with conjugated bonds — A.A. Berlin, G.A. Vinogradov, and A.A. Ovchinnikov
355 (613) Determination of the lifetime for the 4^1P_1 level of the helium atom by studying the alignment in the discharge — S.A. Kazantsev and V.P. Markov
356 (614) Velocity of light in a dielectric in a magnetic field — Z.K. Yankauskas

MEETINGS

358 (616) The 11th European Congress on Molecular Spectroscopy (ECMS-XI) — N.N. Kristofel
360 (618) 17th International Colloquium on Spectroscopy — S.E. Frish

OPTICS AND SPECTROSCOPY **Vol. 36, No. 4, April 1974**
(Russian original: Optika I Spektroscopiya, Vol. 36, No. 4, pp. 625-815, April 1974)

363 (625)	Fine structure of the terms of $1s^2\ 2s^{N_1}\ 2p^{N_2}$ configurations	A.P. Vala and R.S. Dagis
366 (630)	Oscillator strengths for resonance of atoms of the group II elements	V.A. Zilitis
369 (365)	Polarizability of a relativistic hydrogen atom	A.F. Shestakov and S.V. Khristenko
371 (638)	Calculation of the efficiency of optical orientation and recording of nuclear polarization for Hg^{199} and Hg^{201} by 2537-Å radiation from a lamp with the natural mixture of isotopes	O.A. Bartenev and L.N. Novikov
375 (644)	Spectroscopic determination of electron concentration in the arc of a duoplasmatron ion source	M.A. Abroyan, Yu.M. Kagan, N.B. Kolokolov, and B.P. Lavrov
376 (649)	Experimental study of the radiation of H_2O and OH fundamental bands at high temperatures	A.A. Konkov and A.V. Vorontsov
381 (654)	The λ = 4600-Å band in a spectrum produced by pulsed photolysis of chromium carbonyl	Yu.M. Efremov, A.N. Samoilova, and L.V. Gurvich
383 (658)	K-absorption spectrum of nitrogen in the N_2 molecule	A.S. Vinogradov, B. Shlarbaum, and T.M. Zimkina
386 (663)	The effect of 4f electrons on the structure of x-ray spectra	Demekhin and T.M. Poltinnikova
389 (668)	Determination of hydrogen bond energy in the excited electronic state from shifts of electronic bands using a four-level system	T.G. Meister, G.Ya. Zelikina, and V.P. Klindukhov
391 (672)	Centrifugal stretching constants of the ethanol molecule	I.Ya. Zemlyanukhina and L.M. Sverdlov
393 (676)	Vibration spectra of tetramethyl compounds of elements of group IV	A.M. Pyndyk, M.R. Aliev, and V.T. Aleksanyan
397 (683)	Some relationships in the vibration structure of fluorescence and absorption spectra of aromatic-hydrocarbon molecules. 2: Nonperturbed transitions	T.N. Bolotnikova and O.F. Elnikova
400 (687)	Fluorescence quenching of chlorophyll and related compounds by nitro compounds	S.L. Bondarev and G.P. Gurinovich
403 (692)	Observation of absorption in liquids by polarized light	A.M. Bonch-Bruevich, T.K. Razumova, and I.O. Starobogatov
405 (696)	Exiton states of some pure and mixed molecular crystals. 3: Electronic spectra of crystalline solutions of p-dichorobenzene and p-chlorobromobenzene, and of p-dibromobenzene and p-chlorobromobenzene	G.V. Klimusheva, A.T. Rudchik, and R.V. Yaremko
408 (701)	Spectroscopic study of the stabilization of the sphalerite structure in ZnS-Cu single crystals	L.G. Suslina and D.L. Fedorov
411 (707)	Determination of the symmetry of the normal vibrations and factor-group analysis of the fluoroapatite crystal	D.K. Arkhipenko, V.N. Stolpovskaya, and B.A. Orekhov
413 (712)	Luminescence of solid aromatic substances in active nitrogen	V.D. Shatrov, O.F. Pugachev, and E.B. Gordon
416 (717)	Spectroscopic study of the nature of luminescence centers in a NaCl-Tl phosphor for a wide range of activator concentrations	N.I. Ivanova, A.A. Soloveva and L.I. Tarasova
421 (725)	Mechanism of energy transfer from ketones to rare earth ions. 4: effect of solvent and temperature. Intramolecular and diffusion transfer	E.B. Sveshnikova, V.F. Morina, and V.L. Ermolaev
426 (733)	The faraday affect in strong magnetic fields	V.V. Druzhinin and O.M. Tatsenko

(continued on page ii)

429 (739)	Transient processes and statistical phenomena in a He-Ne laser with a slowly varying pump parameter	V.E. Brazovskiĭ and G.G. Telegin
431 (743)	Optimization of the method of recording phase holograms of a set of diffuse and point objects	I.S. Barbanel and E.I. Krupitskiĭ
435 (750)	Production of holographic interferograms using cw and pulsed multijode lasers	A.F. Belozerov and I.S. Zeĭlikovich
437 (753)	Six-photon interaction between light waves in resonant media	P.A. Apanasevich and A.I. Urbanovich
440 (758)	Out-of-synchronism harmonic excitation in nonlinear media by finite-aperture beams	V.I. Samarin, V.I. Stroganov, and S.V. Sorokin
443 (763)	Calculation of nonlinear susceptibilities and nonlinear indices of refraction from spontaneous Raman scattering data	N.D. Shvedova and L.M. Sverdlov
446 (768)	Nonlinear frequency converter as an infrared spectrometer and receiver	E.N. Antonov, V.G. Koloshnikov, and D.N. Nikogosyan
449 (773)	Ellipsometry of ultrathin transparent films	G.A. Egorova, N.S. Ivanova, E.V. Potapov, and A.V. Rakov
452 (777)	Properties of absorbing multilayer interference filters	A.Yu. Klementeva and A.V. Tikhonravov
455 (781)	Interference filters for the far infrared	Yu.I. Kolesov and V.N. Listvin
457 (785)	Optical properties of thin granular films of tellurium	I.N. Shklyarevskiĭ, A.I. Usoskin, V.P. Lebedev, and E.N. Alekseev
461 (792)	Estimate of the influence of local distortions of a wavefront on optical image quality	V.A. Zverev, S.A. Rodionov, and M.N. Sokolskiĭ
	SHORT COMMUNICATIONS	
464 (798)	Influence of a heavy atom on the spectral-luminescent properties of molecules characterized by electronic excited states of different nature	D.N. Shigorin and N.A. Shcheglova
465 (799)	Calculation of scattering cross section of spherical particles with m = 1.86 (0.02) to m = 2.00	I.T. Romanov, V.E. Kuzema, and G.A. Kitaev
466 (801)	Calculation of the infrared absorption spectrum of ethylamine	L.A. Gribov, M.P. Noskova, and I.N. Krupennikova
467 (804)	Some problems of the geometrical optics of straight hexagonal optical fibers	L.M. Kuchikyan
469 (806)	Laser spectrum selection with telescopic resonators	V.V. Lyubimov, S.K. Medvedev, I.B. Orlova, and V.F. Petrov
471 (808)	Interferometric measurements of the linewidths of the emission of a pulsed PbSe injection laser	V.A. Ageikin, I.I. Zasavitskii, V.G. Koloshnikov, A.I. Likhter, E.G. Pel, and A.P. Shotov
473 (811)	Comparison of nonrelativistic and relativistic perturbation theory using as an example the calculation of the energy of two-electron atoms	A.D. Gurchumeliya and U.I. Safronova
474 (813)	Mechanism of population inversion in atomic hydrogen	V.S. Aleinikov and A.P. Shelepo
475 (814)	Determination of the Stark constant β_j for the $7^2P_{3/2}Cs^{133}$ level by the anticrossing method	G.I. Khvostenko, V.I. Khutorshchikov, and M.P. Chaika

OPTICS AND SPECTROSCOPY Vol. 36, No. 5, May 1974
(Russian original: Optika i Spektroscopiya, Vol. 36, No. 5, pp. 817-1036, May 1974)

477 (817)	Optics in the Academy of Sciences (on the 250th Anniversary of the Academy of Sciences of the USSR	S.E. Frish
482 (826)	Effective cross sections and peculiarities of electron excitation of the cadmium atom	V.V. Sovter, I.P. Zapesochnyi, O.B. Shpenik
487 (834)	Step-by-step excitation in helium	G.N. Gerasimov, G. P. Startsev
489 (838)	Quadratic Stark effect in a partially polarized field	B.A. Zon
493 (845)	Lineshape of nuclear magnetic resonance of optically oriented Hg^{201} atoms	O.A. Bartenev, S.L. Votyakov, L.N. Novikov
495 (848)	Nuclear magnetic resonance of optically oriented atoms induced by a nonuniform static transverse magnetic field	L.N. Novikov, S.L. Votyakov, V.P. Putyrskii
497 (850)	Emittance and radiative cooling of xenon heated by a shock wave	G.I. Koslov and D.I. Roitenburg
501 (857)	Recombination radiation and bremsstrahlung of an oxygen plasma	N.S. Gruzdeva, L.S. Nikolaevskii, I.V. Podmoshenskii
503 (861)	Study of some absorption lines of the water-vapor rotational spectrum in the 100-600 μm region	B.A. Sverdlov, N.I. Furashov
507 (868)	Hamiltonian of partly normal molecules	A.Ya. Tsaune
510 (874)	Relation between the observed and true absorption spectra of molecules in a condensed medium. 9: Effects of solvents on the intensity and shape of the electronic bands of dyes	V.M. Korovina, N.G. Bakhshiev
512 (878)	Spectral properties of alpha-methyl and alpha-silylketones. 1: Use of the method of complete disregard of differential overlapping in studying the spectral properties of the acetone molecule	L.V. Orlovskaya, I.V. Sokolova, A.F. Terpugova
516 (885)	Temperature and concentration dependence of the Raman spectra of liquids	N.V. Bogachev, O.G. Bokov
519 (890)	Allowance for the anisotropy of the polarizability of molecules in the theory of the intensity of the vibrational spectra of liquids. I. Intensity of Raman scattering in liquids	O.G. Bokov
522 (895)	Some relationships in the vibrational structure of the fluorescence and absorption spectra of aromatic-hydrocarbon molecules. 3: Vibronically perturbed transitions	T.N. Bolotnikova, O.F. Elnikova
525 (901)	Calculation of the vibrational spectra of cyanuric and trithiocyanuric acids	B.Ya. Shtenberg, Yu.I. Mushkin, A.I. Finkelshtein
528 (905)	Vibrational spectra and geometrical structure of Aniline and Alpha, Beta, and Gamma Aminopyridines	V.I. Berezin, M.D. Elkin
532 (911)	Calculation of the infrared spectral absorption curve of poly(ethylene glycol adipate)	L.A. Gribov, I.V. Zhitlova, O.I. Kondratov
535 (916)	Davydov splitting in the vibrational spectra of molecular crystals. 3: Variation of Davydov splitting with concentration in their spectrum of crystalline solutions of cyclohexane in cyclohexane-d_{12}	M.A. Moskaleva, G. N. Zhizhin
537 (919)	Deactivation of triplet states and delayed fluorescence of cyanine dyes in sensitized photoexcitation	A.K. Chibisov, V.S. Kuzmin, Yu.I. Lifanov
541 (925)	Character of the change in lifetime during oxygen quenching of the afterglow of adsorbates	I.A. Zakharov, T.I. Grishaeva, V.B. Aleskovskii
545 (932)	Method for measuring induced birefringence on anistropic crystals in quasimonochromatic light	D.A. Belogurov, Yu.V. Shaldin
547 (936)	Electrooptical effect in lead magnesium niobate crystals of pyrochlore structure	I.I. Adrianova, A.A. Berezhnoi, E.V. Nefedova, V.A. Pismennyi, Yu.V. Popov, K.P. Skornyakova

(continued)

549	(939)	Investigation of luminescence centers in natural diamonds	M.V. Lukyanovich, I.V. Yaek, A.S. Kuznetsov
553	(945)	Polarized luminescence from unactivated lead chloride crystals	G.G. Liidya, Vl.G. Plekhanov
556	(950)	Vibrational spectra of rhombically distorted perovskites	A.S. Knyazev, V.P. Zakharov, Yu.M. Poplavko
559	(954)	Anomalies of optical absorption in thin metal films	V.G. Kogan, V.A. Lavrovskii
563	(960)	Investigation of the spectral dependence of the yield of slow photoelectrons from platinum and silver surfaces in the vacuum ultraviolet	G.V. Karachevtsev, V.K. Potapov, V.V. Sorokin
566	(964)	Determination of polydisperse media parameters from intensity fluctuations of scattered radiation	A.P. Chaikovskii, A.Ya. Khairullina, A.P. Ivanov
569	(969)	Natural frequencies and polarizations of a ring resonator	T.F. Pankratova
572	(975)	Diffraction splitting of the frequencies of oppositely traveling waves in a gas ring laser	T.V. Guseva, E.E. Fradkin
576	(982)	Experimental study of reactive oscillations in the discharge gap of a He-Ne laser	V.E. Privalov, S.A. Frikrikhov, G.A. Shishkin
579	(987)	Efficiency of liquid luminescence filter in a ruby laser	M.B. Levin, A.S. Cherkasov, V.I. Shirokov
581	(990)	Theory of induced four-photon light scattering in resonant media	A.A. Afanasev, A.I. Urbanovich
584	(996)	Diffraction of laser radiation by a magnetic grating	A.A. Solomko, V.I. Mykityuk
587	(1001)	Thermal effects on parametric light scattering in $LiNbO_3$	Yu.A. Gorokhov, D.P. Krindach, V.S. Maiorov, V.S. Shevera
590	(1005)	Investigation of amplitude and phase holograms of diffuse objects	V.I. Lokshin, G.B. Semenov, A.F. Kavtrev
		SHORT COMMUNICATIONS	
594	(1012)	Participation of dipolons in the two-stage process of photochemical coloration of alkali halide crystal	G.A. Rozman
595	(1014)	Polarization of light in light-guides of square shape	L.M. Kuchikyan, A.V. Volyar
597	(1016)	Copying holograms by stamping on a thermoplastic	I.N. Vagin, A.E. Shtanko
598	(1018)	Application of perturbation theory to the calculation of collisional depolarization of spectral lines with hyperfine structure	V.N. Rebane
600	(1020)	Possibilities of using an unformed Rozhdestvenskii hook to determine the Nfl value	Yu.G. Kozlov, G.A. Plekhotin
601	(1022)	The possibility of using relief-phase copies of Vander Lugt filters	V.I. Protasevich, V.S. Strukov
602	(1023)	Bimolecular ionization of excited CH_3I molecules	V.S. Ivanov, F.I. Vilesov
603	(1025)	Approximate equations for ultrathin two-layer coatings	A.I. Usoskin, I.N. Shklyarevskii
604	(1027)	Excitation of resonance lines of K II in electron-atom collisions	V.S. Vukstich, I.S. Aleksakhin, I.P. Zapesochnyi
605	(1029)	Special case of crossing of the levels of alkali metal atoms in magnetic and electric fields	G.I. Khvostenko
606	(1030)	Alignment of excited argon atoms in the positive column of a direct-current discharge	S.A. Kazantsev, A. Kisling, M.P. Chaika
608	(1032)	Temperature shift and broadening of Nd^{3+} ion levels in $CaWO_4$, $CaMoO_4$, and $PbMoO_4$ crystals	V.I. Bonchkovskii, B.I. Minkov, S.A. Sazonova, B.S. Skorobogatov
609	(1034)	Rotational structure of the 5472-5463Å band of calcium oxide	G.A. Volnyets, G.V. Kovalenok, V.A. Sokolov

OPTICS AND SPECTROSCOPY Vol. 36, No. 6, June 1974
(Russian original: Optika i Spektroskopiya, Vol. 36, No. 6, pp. 1041-1235, June 1974)

611 (1041)	Line shape for a nuclear magnetic resonance of an optically oriented atomic system in a nonuniform radiofrequency field	S.L. Votyakov, S.P. Dovgopol, L.N. Novikov, V.P. Putyrskii
615 (1048)	Production of population inversion in np^2 configurations	P.A. Bokhan, G.S. Kiyashkina
618 (1053)	Deviation from ionization equilibrium in a two-temperature mixture of atomic gases	L.S. Polak, D.I. Slovetskii
620 (1057)	Study of collisions of the second kind between $Hg(6^3P_{0,1})$ atoms and slow electrons in an Hg + CO mixture	S.M. Kazakov, A.I. Korotkov, N.A. Prilezhaeva
625 (1066)	Quantum phenomena in coherent-radiation transfer. Part 1	F.A. Vorobev, R.I. Sokolovskii
628 (1072)	Effect of cooling on the characteristics of pulsed neon superradiance	N.G. Turkin, V.P. Yakunin
630 (1075)	Photodissociation and photorecombination emission of diatomic molecules	A.V. Eletskii, B.M. Smirnov, G.V. Shlyapnikov
635 (1083)	Angular dependence of secondary luminescence spectra of a gas system	L.M. Khayutin
639 (1091)	Calculation of the influence of electron-nuclear and spin interactions on the vibrational-rotational Hamiltonian of polyatomic nonlinear molecules	Yu. S. Makushkin, O.N. Ulenikov
642 (1098)	Calculation of the potential surfaces of the H_2S and CO_2 molecules	L.A. Gribov, G.V. Khovrin
645 (1103)	Allowance for the anisotropy of the polarizability of molecules in the theory of the intensity of the vibrational spectra of liquids. 3: Allowance for intermolecular interaction in the solution of the inverse electro-optical problem in carbon tetrachloride	N.V. Bogachev
647 (1107)	Allowance for the anisotropy of the polarizability of molecules in the theory of the intensity of the vibrational spectra of liquids. 2: Breakdown of the correlation between the intensities of the Raman scattering of light in the liquid and gaseous phase	O.G. Bokov
650 (1112)	Calculation and interpretation of the infrared spectra of ortho- and meta-dicarboclosododecaboranes	T.P. Klimova, L.A. Gribov, V.I. Stanko
654 (1118)	Stepwise excitation of anti-Stokes fluorescence and photochemical processes in solutions of polymethine dyes	E.N. Kaliteevskaya, T.K. Razumova
658 (1125)	Configuration of $3d^5$ electrons in a trigonal field. Spectra of Fe^{3+} ions in a demantoid garnet and corundum	T.F. Veremeichik, B.N. Grechushnikov, I.N. Kalinkina, D.T. Sviridov
662 (1134)	Nonradiative energy transfer in phosphate glasses activated with rare earth ions	S.L. Kraevskii, Yu. P. Rudnitskii, E.I. Sverchkov
666 (1140)	Covariant description of light interaction with nonabsorbing crystalline plates	L.M. Barkovskii, F.I. Fedorov
669 (1146)	Measurement of optical constants of materials in the 4–30 cm^{-1} region by a Michelson interferometer	F.F. Igoshin, A.P. Kiryanov, V.V. Mozhaev, M.A. Tulaikova, A.A. Sheronov
672 (1152)	Radiation of electrons moving toward a silver surface at grazing angles. Radiation on surface irregularities	F.R. Arutyunyan, A. Kh. Mkhitaryan, R.A. Oganesyan, B.O. Rostomyan
675 (1157)	Nature of light absorption by bismuth and tellurium island films	A.I. Usoskin, I.N. Shklyarevskii
678 (1162)	Light reflection from scattering media with refracting boundaries	N.A. Voishvillo
680 (1165)	Experimental study of the angular intensity distribution of light scattered by liquid crystals in a dynamic-scattering regime	I.D. Samodurova, A.S. Sonin, A.B. Uspenskii

(continued)

682 (1169)	Nonlinear polarization of quantum systems with degenerate transitions	B.D. Fainberg
687 (1178)	Resonance interaction of unidirectional waves in a gas in a magnetic field	E.V. Baklanov
690 (1184)	Laser doppler velocimeter with compensation of additive components of interference and noise	A.I. Vatrushkin, Yu. N. Dubnishchev, T. Ya. Popova
692 (1187)	Light echo in a nonuniform external field	A.I. Alekseev, I.V. Evseev
695 (1193)	Investigation of an interferometer with a diffraction grating to study streamline flow around models in shock-wave tunnels	L.A. Vasilev, I.V. Ershov
699 (1201)	Resolution and luminosity of a spectrometer with a Fabry-Perot interferometer for analyzing Mandelshtam-Brillouin spectra	V.M. Rysakov
702 (1206)	Synthesis of multilayer optical coatings for the case when the specified spectral characteristic has discontinuities	E.G. Stolov, Sh. A. Furman
	SHORT COMMUNICATIONS	
705 (1212)	Effect of sorption of water vapor and of vapors of certain organic substances on the electroluminescence spectrum of aluminum-oxide films	A.P. Fedchuk, V.V. Mikho
706 (1213)	Luminescence of ammonium halide crystals activated with indium	B.K. Kusainova
707 (1216)	Liquid optical component that uses attenuated total internal reflection with a variable number of reflections	G.V. Saidov, M.E. Yudovich
709 (1217)	A problem in the theory of radiation by extended charges	A.B. Kukanov, A.V. Konstantinovich
709 (1219)	Infrared spectra of a cryosystem: carbon tetrafluoride	R. Akhmedzhanov, V.V. Bertsev, M.O. Bulanin, L.A. Zhigula
711 (1221)	Nature of the red shift of hydrogen lines in a dense plasma	A.V. Demura, G.V. Sholin
712 (1222)	Structure of the vibrational band of hydrogen in various liquid solutions	N.D. Orlova, L.A. Pozdnyakova
713 (1224)	Absorption of aniline in the 751-cm^{-1} region near the critical solution point of an aniline-cyclohexane mixture	A.I. Mardaeva, A.F. Bondarev
714 (1225)	Dependence of the two-photon absorption coefficient on the thickness of CdS single crystals	R.A. Baltrameyunas, Yu. Yu. Vaitkus, Yu. K. Vishchakas, V.I. Gavryushin
715 (1227)	Triplet-triplet energy transfer involving fluorinated aromatic compounds	S.S. Tibilov, V.L. Ermolaev
717 (1229)	Experiments on the electron impact excitation of beryllium atoms	I.S. Aleksakhin, V.A. Zayats
718 (1230)	Solution of the inverse vibrational problem for the phosgene molecule using vibrational-rotational constants and inertia defects	L.M. Sverdlov, L.A. Razbegaeva
719 (1232)	Radiation lifetimes of levels of the Ca III ion	P.F. Gruzdev, A.V. Loginov
720 (1234)	Nature of the fine structure of Co^{2+} bands in MeF_2	A.L. Stolov, Zh. S. Yakovleva

SUBJECT INDEX TO VOLUMES 36-37

Papers are arranged in ascending page number order.

1. COMMUNICATION, EDUCATION, HISTORY, AND PHILOSOPHY

1.15.+ Conferences, lectures, and symposia

The 11th European Congress on Molecular Spectroscopy (ECMS-X1) —N. N. Kristofel. **36**(3), 358–60 (Mar. 1974); CPM-7407X1044

17th International colloquium on spectroscopy —S. E. Frish. **36**(3), 360–1 (Mar. 1974); CPM-7407X1046

Symposium on laser spectroscopy —G. Kh. Tartakovskii and V. F. Shabanov. **37**(6), 689 (Dec. 1974)

Fourth all-union conference on spectroscopy of activated crystals — A. I. Ryskin and P. P. Feofilov. **37**(6), 690–1 (Dec. 1974)

7th seminar, excitons in crystals —O. Kraus. **37**(6), 692 (Dec. 1974)

1.30.– Physics literature and publications

Organic molecular photophysics J. B. Birks (Editor), Vol. 1, Wiley, New York, 1973 —V. E. Kholmogorov. **37**(6), 684 (Dec. 1974)

The spectroscopy of intermolecular interactions. Nauka Press, Leningrad, 1972, 246 pp. —V. V. Gruzinskii and K. N. Solovev. **37**(6), 684–5 (Dec. 1974)

Mathematical foundations of atomic theory. By A. P. Jucys and A. J. Savukynas. Mintis, Vilnius, 1973, 480 pp., bibl. 243–T. K. Rebane. **37**(6), 685–6 (Dec. 1974)

The theory of the photographic process. By C. E. Kenneth Mees and T. H. James. State Scientific Research Institute project on the Chemistry of Photography, Leningrad, 1973. 572 pp. —V. M. Belous. **37**(6), 687–8 (Dec. 1974)

1.90.+ Other topics of general interest

Optics in the academy of sciences (on the 250th anniversary of the academy of sciences of the USSR —S. E. Frish. **36**(5), 477–81 (May 1974); CPM-7409X1405

Sixth All-union School on the physical principles of holography —I. S. Klimenko. **37**(6), 691 (Dec. 1974)

3. CLASSICAL AND QUANTUM MECHANICS

3.50.– Classical electrodynamics and classical field theory

A problem in the theory of radiation by extended charges —A. B. Kukanov and A. V. Konstantinovich. **36**(6), 709 (Jun. 1974); CPM-7410X1071

Phenomenological theory of absorbing optically active media —B. V. Bokut, A. N. Serdyukov, and V. V. Shepelevich. **37**(1), 65–7 (Jul. 1974)

Scattering matrix for light scattered by a small particle of arbitrary shape —A. G. Ramm. **37**(1), 68–70 (Jul. 1974)

Critical opalescence in a gravitational field —E. L. Lakoza and A. V. Chalyi. **37**(1), 79–81 (Jul. 1974)

4. RELATIVITY AND GRAVITATION

Critical opalescence in a gravitational field —E. L. Lakoza and A. V. Chalyi. **37**(1), 79–81 (Jul. 1974)

5. STATISTICAL PHYSICS AND THERMODYNAMICS

Equilibrium radiation in a finite-size cavity —A. A. Kolokolov and G. V. Skrotskii. **36**(2), 127–9 (Feb. 1974); CPM-7406X0487

6. MEASUREMENT SCIENCE, GENERAL LABORATORY TECHNIQUES, AND INSTRUMENTATION SYSTEMS

Supersensitive method for monitoring the otpical purity of liquids — A. V. Butenin and B. Ya. Kogan. **37**(5), 573–4 (Nov. 1974)

7. SPECIFIC INSTRUMENTATION OF GENERAL USE IN PHYSICS

7.40.+ Interferometers and interferometry

Double-beam three-plate interferometer with polarizing elements —V. Kh. Goikman, G. M. Izakson, and V. A. Moskalev. **36**(1), 121–2 (Jan. 1974); CPM-7406X0481

A Method of holographic interferometry with discrete illumination of three-dimensional phase object —V. T. Chernykh and A. F. Belozerov. **36**(2), 238–9 (Feb. 1974)

Resonance properties of a three-mirror multiple-beam interferometer —V. Ya. Balakhanov, V. K. Zhivotov, M. R. Krotov, A. R. Striganov, and M. D. Suleimenov. **36**(3), 331–4 (Mar. 1974); CPM-7407X1017

Measurement of optical constants of materials in the 4–30 cm^{-1} region by a Michelson interferometer —F. F. Igoshin, A. P. Kiryanov, V. V. Mozhaev, M. A. Tulaikova, and A. A. Sheronov. **36**(6), 669–71 (Jun. 1974); CPM-7410X1031

Investigation of an interferometer with a diffraction grating to study streamline flow around models in shock-wave tunnels —L. A. Vasilev and I. V. Ershov. **36**(6), 695–8 (Jun. 1974); CPM-7410X1057

Resolution and luminosity of a spectrometer with a Fabry-Perot interferometer for analyzing Mandelshtam-Brillouin spectra —V. M. Rysakov. **36**(6), 699–701 (Jun. 1974); CPM-7410X1061

Geometric parameters of objects studied by using shift interferometry —N. G. Vlasov, Yu. P. Presnyakov, and E. G. Semenov. **37**(2), 210–2 (Aug. 1974)

Interferometric method for measuring the intensity of time-varying strong magnetic fields —A. V. Molchanov and R. I. Semenov. **37** (3), 348–9 (Sep. 1974)

Method of compensating aberrations in holographic interferometry of increased sensitivity —V. L. Afanaseva, L. T. Mustafina, and V. A. Seleznev. **37**(4), 448–9 (Oct. 1974)

Optimal conditions for measuring Voigt-contour parameters using a Fabry-Perot etalon —V. I. Tsoi, A. G. Velichko, and M. L. Kats. **37**(6), 595–7 (Dec. 1974)

7.45.+ Optical spectrometers and spectrometric techniques

Rapid spectroscopy using lasers with swept lasing frequency —S. P. Anokhov, V. I. Kravchenko, and M. S. Soskin. **36**(1), 106–8 (Jan. 1974); CPM-7406X0466

Restoration of optical spectra and other nonnegative functions by the statistic regularization method —V. F. Turchin and L. S. Turovtseva. **36**(2), 162–5 (Feb. 1974); CPM-7406X0522

Use of the regularization method for determining the true profiles of spectral lines —I. D. Molodenkova and I. F. Kovalev. **36**(2), 166–7 (Feb. 1974); CPM-7406X0526

Gain in Fourier spectrometry —V. I. Tsoi and T. N. Sokolova. **36**(2), 240–1 (Feb. 1974); CPM-7406X0600

Nonlinear frequency converter as an infrared spectrometer and receiver —E. N. Antonov, V. G. Koloshnikov, and D. N. Nikogosyan. **36**(4), 446–8 (Apr. 1974); CPM-7408X0228

Resolution and luminosity of a spectrometer with a Fabry-Perot interferometer for analyzing Mandelshtam-Brillouin spectra —V. M. Rysakov. **36**(6), 699–701 (Jun. 1974); CPM-7410X1061

Liquid optical component that uses attenuated total internal reflection with a variable number of reflections —G. V. Saidov and M. E. Yudovich. **36**(6), 707–8 (Jun. 1974); CPM-7410X1069

Depolarization of fluorescence during decay, using multichannel time analysis —L. V. Volodko, M. I. Demchuk, I. N. Kozlov, A. M. Sarzhevskii, and A. F. Chernyavski. **37**(4), 392–4 (Oct. 1974)

On the question of investigation of the hyperfine and superhyperfine interaction by the light echo method —Z. M. Kaveeva and V. V. Samartsev. **37**(4), 465 (Oct. 1974)

29. EXPERIMENTAL METHODS AND INSTRUMENTATION FOR ELEMENTARY PARTICLE AND NUCLEAR PHYSICS

Scintillation mechanism in NaI–Tl —I. R. Gulakov and A. N. Pertsev. **36**(1), 67–9 (Jan. 1974); CPM-7406X0427

Transient radiation of a current-carrying charged cluster crossing a plane–parallel ferrodielectric plate —A. B. Kukanov, G. A. Lavrova, and O. G. Goryaga. **37**(4), 454–5 (Oct. 1974)

31. ATOMS

31.30.– Atomic structure and spectroscopy

Comparison of nonrelativistic and relativistic perturbation theory using as an example the calculation of the energy of two–electron atoms —A. D. Gurchumeliya and U. I. Safronova. **36**(4), 473–4 (Apr. 1974); CPM-7408X0255

Sturm expansion of a two–particle Coulomb Green's function —S. V. Khristenko and S. I. Vetchinkin. **37**(6), 583–5 (Dec. 1974)

31.30.C Orbitals: self–consistent field and other methods

System of Hartree–type equations for quasi–stationary states. Calculation of the energy and width of levels of doubly excited helium —V. V. Kuchinsii. **36**(3), 255–7 (Mar. 1974); CPM-7407X0941

Fine structure of the terms of $1s^2\ 2s^{N}{}_1\ 2p^{N2}$ configurations —A. P. Vala and R. S. Dagis. **36**(4), 363–5 (Apr. 1974); CPM-7408X0145

Modified adiabatic approximation for isoelectronic sequence of helium with the separation of variables in elliptical coordinates —E. P. Smirnov and T. K. Rebane. **37**(4), 451–2 (Oct. 1974)

31.30.F Electron correlations and configuration interactions

Two–electron radial equations and calculations of pair–correlation energies for Be and Ne atoms —S. Ya. Ishchenko and V. V. Tolmachev. **37**(6), 586–8 (Dec. 1974)

31.30.H Relativistic corrections

Fine structure of the terms of $1s^2\ 2s^{N}{}_1\ 2p^{N2}$ configurations —A. P. Vala and R. S. Dagis. **36**(4), 363–5 (Apr. 1974); CPM-7408X0145

Polarizability of a relativistic hydrogen atom —A. F. Shestakov and S. V. Khristenko. **36**(4), 369–70 (Apr. 1974); CPM-7408X0151

31.30.K Optical spectroscopy

Intrashell transitions in the spectra of multiply charged titanium ions (Ti XV–Ti XIX) —Yu. S. Kasyanov, E. Ya. Kononov, V. V. Korobkin, K. N. Koshelev, A. N. Ryabtsev, R. V. Serov, and E. V. Skokan. **36**(1), 4–6 (Jan. 1974); CPM-7406X0364

Oscillator strengths and photoionization cross sections of alkali–like ions—V. P. Shevel'ko. **36**(1), 7–9 (Jan. 1974); CPM-7406X0367

Broadening by inert gases of europium lines due to $a^8{}_{7/2} - y^8P_{9/2,7/2,5/2}$ transitions —N. P. Penkin and L. N. Shabanova. **36**(1), 10–2 (Jan. 1974); CPM-7406X0370

Excitation of atomic lines in the positive column of a stratified discharge in hydrogen —Yu. M. Kagan and N. K. Mitrofanov. **36**(1), 28–31 (Jan. 1974); CPM-7406X0388

Calculation of transition probabilities between the $3p^5ns$–$3p^54p$ configurations of Ar I from gyromagnetic rations —G. P. Anisimova and R. I. Semenov. **36**(2), 130–1 (Feb. 1974); CPM-7406X0490

Broadening and shift of the 0.63–μm neon line under the action of the discharge current —Im Tkhek–de, V. P. Kochanov, S. G. Rautian, E. G. Saprykin, and A. M. Shalagin. **36**(2), 152–4 (Feb. 1974); CPM-7406X0512

Oscillator strengths for resonance lines of atoms of the group II elements —V. A. Zilitis. **36**(4), 366–8 (Apr. 1974); CPM-7408X0148

Determination of the Stark constant β_1 for the $7^2P_{3/2}Cs^{133}$ level by the anticrossing method —G. I. Khvostenko, V. I. Khutorshchikov, and M. P. Chaika. **36**(4), 475 (Apr. 1974); CPM-7408X0257

Possibilities of using an unformed Rozhdestvenskii hook to determine the Nfl value —Yu. G. Kozlov and G. A. Plekhotin. **36**(5), 600 (May 1974); CPM-7409X1528

Experiments on the electron impact excitation of beryllium atoms —I. S. Aleksakhin and V. A. Zayats. **36**(6), 717 (Jun. 1974); CPM-7410X1079

Radiation lifetimes of levels of the Ca III ion —P. F. Gruzdev and A. V. Loginov. **36**(6), 719–20 (Jun. 1974); CPM-7410X1081

Transitions in multiply charged beryllium–like ions —E. Ya. Kononov, K. N. Koshelev, and L. I. Podobedova. **37**(1), 1–3 (Jul. 1974)

I^{127} atom in a magnetic field —I. M. Belousova, B. D. Bobrov, V. M. Kiselev, V. N. Kurzenkov, and P. I. Krepostnov. **37**(1), 20–4 (Jul. 1974)

Relative values of oscillator strengths for spectral lines of Dy I —N. P. Penkin, V. A. Komarovskii, and V. V. Smirnov. **37**(3), 223–4 (Sep. 1974)

Depolarizing collisions of atoms and the broadening of spectral lines —V. K. Matskevich. **37**(3), 233–7 (Sep. 1974)

Effect of polarization of the atomic residue on excitation cross sections of optical transitions of alkali atoms —I. L. Beigman and V. P. Shevel'ko. **37**(4), 353–5 (Oct. 1974)

Kinetics of filling of helium levels excited by an electron beam —I. P. Bogdanova, S. E. Erish, and V. I. Yakovleva. **37**(4), 462–4 (Oct. 1974)

Measurement of the total cross section for electron impact excitation of a 5^3P_0 metastable level of cadmium —M. A. Mazing, V. I. Rakhovskii, G. I. Stotskii, and V. M. Shustryakov. **37**(4), 464–5 (Oct. 1974)

Neon. Transition probabilities 1. Transitions $2p^53p$–$2p^5ns$ (n = 3–6) —A. V. Loginov and P. F. Gruzdev. **37**(5), 467–9 (Nov. 1974)

Measurement of relative oscillator strengths for transitions of subordinate series in rubidium and cesium —A. N. Klyucharev, V. Yu. Sepman, and B. V. Dobrolezh. **37**(5), 470–1 (Nov. 1974)

Summation of Feynman atomic diagrams with simple denominators. 2: Autoionization state of the He atom —L. N. Ivanov. **37**(5), 479–81 (Nov. 1974)

Spectra of ions in the Co I isoelectronic sequence. Part 1: Ga V —V. P. Aksenov and A. N. Ryabtsev. **37**(5), 492–4 (Nov. 1974)

Translational absorption in the spectra of noble gases —V. A. Ryzhov and M. V. Tonkov. **37**(6), 606–9 (Dec. 1974)

31.30.N X–ray spectroscopy

The effect of 4f electrons on the structure of x–ray spectra — Demekhin and T. M. Poltinnikova. **36**(4), 386–8 (Apr. 1974); CPM-7408X0168

Spectral intensity of continuous x–radiation from a massive target — A. I. Egorov and V. P. Afonin. **37**(1), 113–4 (Jul. 1974)

31.30.R Electric and magnetic moments; polarizability

Polarizability of a relativistic hydrogen atom —A. F. Shestakov and S. V. Khristenko. **36**(4), 369–70 (Apr. 1974); CPM-7408X0151

Effect of polarization of the atomic residue on excitation cross sections of optical transitions of alkali atoms —I. L. Beigman and V. P. Shevel'ko. **37**(4), 353–5 (Oct. 1974)

31.40.– Fluorescence, resonances, excitations, and energy transfer

Interpretation of the pressure dependence of the effective level lifetime —Yu. A. Tolmachev. **37**(5), 577–8 (Nov. 1974)

31.40.D Magnetic resonances

Collision depolarization of optically oriented Xe atoms in a metastable $^3P_2$ state at nitrogen and room temperatures —R. A. Zhitnikov and A. I. Okunevich. **36**(2), 253–4 (Feb. 1974); CPM-7406X0613

Lineshape of nuclear magnetic resonance of optically oriented Hg^{201} atoms —O. A. Bartenev, S. L. Votyakov, and L. N. Novikov. **36**(5), 493–4 (May 1974); CPM-7409X1421

Nuclear magnetic resonance of optically oriented atoms induced by a nonuniform static transverse magnetic field —L. N. Novikov, S. L. Votyakov, and V. P. Putyrskii. 36(5), 495–6 (May 1974); CPM-7409X1423

31.40.G Fluorescence and quenching

Application of perturbation theory to the calculation of collisional depolarization of spectral lines with hyperfine structure —V. N. Rebane. 36(5), 598–9 (May 1974); CPM-7409X1526

Profile of a luminescence pulse excited by a stationary pulse —B. B. Averbukh and R. I. Sokolovskii. 37(5), 525–6 (Nov. 1974)

31.40.L Level crossing and optical pumping

Level crossover in the ground and excited states in a zero field during alignment of Hg^{201} atoms by the 2537 Å line —L. N. Novikov and S. L. Votyakov. 36(2), 138–40 (Feb. 1974); CPM-7406X0498

Collision depolarization of optically oriented Xe atoms in a metastable $^3P_2$ state at nitrogen and room temperatures —R. A. Zhitnikov and A. I. Okunevich. 36(2), 253–4 (Feb. 1974); CPM-7406X0613

Determination of the lifetime for the 4^1P_1 level of the helium atom by studying the alignment in the discharge —S. A. Kazantsev and V. P. Markov. 36(3), 355–6 (Mar. 1974); CPM-7407X1041

Calculation of the efficiency of optical orientation and recording of nuclear polarization for Hg^{199} and Hg^{201} by 2537-Å radiation from a lamp with the natural mixture of isotopes —O. A. Bartenev and L. N. Novikov. 36(4), 371–4 (Apr. 1974); CPM-7408X0153

Mechanism of population inversion in atomic hydrogen —V. S. Aleinikov and A. P. Shelepo. 36(4), 474–5 (Apr. 1974); CPM-7408X0256

Determination of the Stark constant β_j for the $7^2P_{3/2}Cs^{133}$ level by the anticrossing method —G. I. Khvostenko, V. I. Khutorshchikov, and M. P. Chaika. 36(4), 475 (Apr. 1974); CPM-7408X0257

Lineshape of nuclear magnetic resonance of optically oriented Hg^{201} atoms —O. A. Bartenev, S. L. Votyakov, and L. N. Novikov. 36(5), 493–4 (May 1974); CPM-7409X1421

Nuclear magnetic resonance of optically oriented atoms induced by a nonuniform static transverse magnetic field —L. N. Novikov, S. L. Votyakov, and V. P. Putyrskii. 36(5), 495–6 (May 1974); CPM-7409X1423

Special case of crossing of the levels of alkali metal atoms in magnetic and electric fields —G. I. Khvostenko. 36(5), 605–6 (May 1974); CPM-7409X1533

Alignment of excited argon atoms in the positive column of a direct-current discharge —S. A. Kazantsev, A. Kisling, and M. P. Chaika. 36(5), 606–7 (May 1974); CPM-7409X1534

31.60.– Ionization, continuum spectra, electron affinity

Oscillator strengths and photoinization cross sections of alkali-like ions—V. P. Shevel'ko. 36(1), 7–9 (Jan. 1974); CPM-7406X0367

Transitions in multiply charged beryllium-like ions —E. Ya. Kononov, K. N. Koshelev, and L. I. Podobedova. 37(1), 1–3 (Jul. 1974)

Calculation of autoionization probabilities for helium and heliumlike ions —Yu. K. Zemtsov. 37(4), 356–8 (Oct. 1974)

Summation of Feynman atomic diagrams with simple denominators. 2: Autoionization state of the He atom —L. N. Ivanov. 37(5), 479–81 (Nov. 1974)

31.90.+ Other topics in atomic physics

Hyperfine relaxation of Rb^{87} atoms in buffer gases —N. N. Yakobson. 37(3), 225–6 (Sep. 1974)

32. MOLECULES

32.20.– Molecular structure and constants derived from experimental measurements

32.20.D Interatomic distances and angles

Molecular constants of hydrogen peroxide. 4: Structural parameters — G. A. Khachkuruzov and I. N. Przhevalskii. 36(2), 172–4 (Feb. 1974); CPM-7406X0532

32.20.G Bond strengths, dissociation energies, hydrogen bonding, molecular core binding energy, etc.

Separation of the contributions from universal intermolecular interactions and intermolecular interactions and intermolecular hydrogen bonds to the observed shifts of electronic bands. 3: Study of the $n\rightarrow\sigma^*$ band of certain aliphatic ketones —G. Ya. Zelikina and T. G. Meister. 36(1), 46–8 (Jan. 1974); CPM-7406X0406

Determination of energy of intermolecular hydrogen bond in the ground and first excitation states for the system 1-azaphenan-threne-phenylic acid —V. P. Klindukhov and T. G. Meister. 37(2), 207–9 (Aug. 1974)

Separation of the contributions from universal intermolecular interactions and intermolecular hydrogen bonding in the observed shifts of electronic bands. 4: Electronic transitions of different character ($n\rightarrow\pi^*$ and $\pi\rightarrow\pi^*$) —T. G. Meister, G. Ya. Zelikina, L. V. Golovina, and V. V. Fesik. 37(5), 516–20 (Nov. 1974)

32.20.J Barrier heights (internal rotation, inversion); rotational isomerism

Model of collective π-electron motion in molecules. Part 2 —L. V. Iogansen and V. V. Malov. 37(1), 25–8 (Jul. 1974)

32.20.M Electric and magnetic moments (and derivatives), polarizability, and magnetic susceptibility

Determination of the signs of the electrooptical parameters from experimental data on dipole moments —V. M. Mikhailov and M. R. Aliev. 36(3), 351–2 (Mar. 1974); CPM-7407X1037

Model of collective π-electron motion in molecules. Part 2 —L. V. Iogansen and V. V. Malov. 37(1), 25–8 (Jul. 1974)

π-Electron system in a strong magnetic field —V. Z. Kresin, V. A. Litovchenko, and A. G. Panasenko. 37(2), 149–52 (Aug. 1974)

Electronic and vibrational states of biphenyl-based molecules. 3: Determination of the polarization of the electronic and electronic-vibrational transitions of the carbazole and dibenzofuran molecules from the hypochromy in their crystal spectra —V. L. Grebneva, L. A. Nakhimovskaya, K. R. Popov, L. V. Smirnov, and G. V. Sukhina. 37(5), 504–6 (Nov. 1974)

32.20.P Rotation, vibration, and vibration–rotation constants

Molecular constants of hydrogen peroxide. 5: Force constants —I. N. Przhevalskii and G. A. Khachkuruzov. 36(2), 175–7 (Feb. 1974); CPM-7406X0535

Centrifugal stretching constants of the ethanol molecule —I. Ya. Zemlyanukhina and L. M. Sverdlov. 36(4), 391–2 (Apr. 1974); CPM-7408X0173

Calculation of the influence of electron-nuclear and spin interactions on the vibrational-rotational Hamiltonian of polyatomic nonlinear molecules —Yu. S. Makushkin and O. N. Ulenikov. 36(6), 639–42 (Jun. 1974); CPM-7410X1001

Sum rules for frequency squares and vibration frequencies of phenyl halides —Yu. S. Korostelev, N. A. Korosteleva, and L. M. Sverdlov. 37(2), 218–9 (Aug. 1974)

Line spectra of phthalocyanines at 4.2 K and certain special features of their multiplet structure —O. N. Koromaev and R. I. Personov. 37(5), 507–9 (Nov. 1974)

Stark effect in tetracene and perylene films —L. M. Blinov and N. A. Kirichenko. 37(5), 513–5 (Nov. 1974)

Submillimeter spectrum and intermolecular parameters —A. V. Burenin, A. N. Valbov, L. I. Gershtein, E. N. Karyakin, A. F. Krupnov, A. V. Maslovskii, and S. M. Shchapin. 37(6), 676–8 (Dec. 1974)

32.40.– Quantum chemistry

Hamiltonian of partly normal molecules —A. Ya. Tsaune. 36(5), 507–9 (May 1974); CPM-7409X1435

32.40.B General theory of electronic structure, electronic transitions, and chemical binding

Determination of hydrogen bond energy in the excited electronic state shifts of electronic bands using a four-level system —T. G. Meister and V. P. Klindukhov. 36(4), 389–90 (Apr. 1974); CPM-7408X0171

Spectral evidence and mechanisms of intermolecular interactions involving bipolar molecules —I. E. Boldeskul, G. A. Kalyagin, Yu. P. Makovetskii, and E. V. Ryltsev. 37(4), 459–60 (Oct. 1974)

32.40.F Molecular orbital methods and SCF calculations

Calculation of the g-factor anisotropy in the approximation of total neglect of differential overlapping while including spin–orbital interaction —B. F. Minaev. 36(2), 159–61 (Feb. 1974); CPM-7406X0519

Spectral properties of alpha–methyl and alpha–silyketones. 1: Use of the method of complete disregard of differential overlapping in studying the spectral properties of the acetone molecule —L. V. Orlovskaya, I. V. Sokolova, and A. F. Terpugova. 36(5), 512–5 (May 1974); CPM-7409X1440

Calculation of the intensities in the infrared spectra of molecules by the MO LCAO method in the approximation of neglecting two–atom differential overlap —Yu. V. Kamenskii, I. F. Kovalev, and I. D. Molodenkova. 37(4), 379–80 (Oct. 1974)

32.40.M Excited states

Determination of hydrogen bond energy in the excited electronic state shifts of electronic bands using a four–level system —T. G. Meister and V. P. Klindukhov. 36(4), 389–90 (Apr. 1974); CPM-7408X0171

Filling of high–excitation states of cesium atoms —V. S. Vorobev and A. I. Gleizer. 37(4), 450 (Oct. 1974)

32.40.P Molecular solids

Theory of vibrations of three–dimensional ordered structures. Polymer crystals —L. A. Gribov. 37(1), 35–7 (Jul. 1974)

32.40.Q Potential energy surfaces for chemical reactions

Determination of the potential surface and analysis of the anharmonic vibrations of the water molegule —L. A. Gribov and G. V. Khovrin. 36(3), 274–6 (Mar. 1974); CPM-7407X0960

Calculation of the potential surfaces of the H_2S and CO_2 molecules —L. A. Gribov and G. V. Khovrin. 36(6), 642–4 (Jun. 1974); CPM-7410X1004

32.40.R Environmental and solvent effects

Role of the anharmonicity of H_2O intramolecular vibrations in nonradiative deactivation of the excited states of rare earth ions —E. N. Bodunov and E. B. Sveshnikova. 36(2), 196–9 (Feb. 1974); CPM-7406X0556

Mechanism of energy transfer from ketones to rare earth ions. 4: effect of solvent and temperature. Intramolecular and diffusion transfer —E. B. Sveshnikova, V. F. Morina, and V. L. Ermolaev. 36(4), 421–5 (Apr. 1974); CPM-7408X0203

Relation between the observed and true absorption spectra of molecules in a condensed medium. 9: Effects of solvents on the intensity and shape of the electronic bands of dyes —V. M. Korovina and N. G. Bakhshiev. 36(5), 510–1 (May 1974); CPM-7409X1438

32.40.S Corrections to Born–Oppenheimer approximation and Jahn–Teller effect

Rotational spectra of dipolar–unstable symmetrical polyatomic systems —I. B. Bersuker, I. Ya. Ogurtsov, and Yu. V. Shaparev. 36(2), 181–4 (Feb. 1974); CPM-7406X0541

Nature of the fine structure of Co^{2+} bands in MeF_2 —A. L. Stolov and Zh. S. Yakovleva. 36(6), 720–1 (Jun. 1974); CPM-7410X1082

32.40.T Hyperfine interactions

Calculation of the influence of electron–nuclear and spin interactions on the vibrational–rotational Hamiltonian of polyatomic nonlinear molecules —Yu. S. Makushkin and O. N. Ulenikov. 36(6), 639–42 (Jun. 1974); CPM-7410X1001

Effect of the relationship between the intensities of hyperfine components of exciting light on the collisional depolarization of fluorescence —V. N. Rebane. 37(2), 123–5 (Aug. 1974)

On the question of investigation of the hyperfine and superhyperfine interaction by the light echo method —Z. M. Kaveeva and V. V. Samartsev. 37(4), 465 (Oct. 1974)

32.40.W Time–dependent phenomena: excitation and relaxation processes, and reaction rates

Reduction of the rotational Hamiltonian of molecules of the asymmetric rotor type —V. N. Bryukhanov and Yu. S. Makushkin. 36(1), 39–40 (Jan. 1974); CPM-7406X0399

Role of the anharmonicity of H_2O intramolecular vibrations in nonradiative deactivation of the excited states of rare earth ions —E. N. Bodunov and E. B. Sveshnikova. 36(2), 196–9 (Feb. 1974); CPM-7406X0556

Transfer of electronic excitation energy in a liquid solution. 4: Transfer due to exchange interaction —L. V. Mikava and I. M. Rozman. 36(2), 200–2 (Feb. 1974); CPM-7406X0560

Luminescence kinetics of rigid solutions with energy transfer. 4: The law of luminescence decay of the acceptor for the transfer due to dipole–dipole interaction —M. S. Mikhelashvili, I. M. Rozman, and T. S. Tsulaya. 36(2), 203–4 (Feb. 1974); CPM-7406X0563

32.60.- Molecular spectroscopy (measurement and phenomenology)

Nature of centers of quasi–line absorption and fluorescence in frozen n–paraffin solutions of aromatic compounds. 1: Occurrence of interactions between molecules of the dissolved substance and centers of quasi–line absorption —G. V. Kleshchev, A. I. Lyamaev, L. A. Mishina, and L. A. Nakhimovskaya. 36(1), 49–51 (Jan. 1974); CPM-7406X0409

17th International colloquium on spectroscopy —S. E. Frish. 36(3), 360–1 (Mar. 1974); CPM-7407X1046

Spin–orbital coupling and the relative intensities of forbidden transitions in I_2 and IX molecules —V. S. Yarunin and V. A. Ganin. 37(5), 495–7 (Nov. 1974)

Optical ortho–para transitions in molecules —V. A. Smirnov. 37(5), 498–500 (Nov. 1974)

Intercombination conversion in rhodamine 6G solutions —E. P. Shebanin, V. S. Dudkin, and B. Ya. Kogan. 37(5), 570–1 (Nov. 1974)

32.60.B Calculational methods, including new theoretical techniques and applications of group theory

Probabilities of vibrational–rotational transitions in diatomic molecules —Yu. S. Makushkin and V. G. Tyuterev. 37(1), 31–4 (Jul. 1974)

Optical activity of a molecule with nondiagonal decay and rotational force matrices —V. A. Morozov. 37(3), 246–9 (Sep. 1974)

Arbitrariness in the selection of symmetry coordinates —I. N. Godnev, V. N. Vinogradova, and M. I. Godneva. 37(3), 253–6 (Sep. 1974)

32.60.D Radio–frequency and microwave spectra

Study of some absorption lines of the water–vapor rotational spectrum in the 100–600 μm region —B. A. Sverdlov and N. I. Furashov. 36(5), 503–6 (May 1974); CPM-7409X1431

Submillimeter spectrum and intermolecular parameters —A. V. Burenin, A. N. Valbov, L. I. Gershtein, E. N. Karyakin, A. F. Krupnov, A. V. Maslovskii, and S. M. Shchapin. 37(6), 676–8 (Dec. 1974)

32.60.F Infrared spectra and Raman spectra

Effect of intermolecular interactions on the vibrational spectra of molecules. 12: Statistical character of the manifestation of intermolecular forces and rotational motion in the shape of vibrational–rotational bands of simple molecules in solution —G. I. Baranova, P. I. Zelikman, and N. G. Bakhshiev. 36(1), 41–5 (Jan. 1974); CPM-7406X0401

Variation of scattering power of molecules in binary mixtures for Raman scattering —N. K. Sidorov and L. S. Stalmakhova. 36(1), 119–20 (Jan. 1974); CPM-7406X0479

Determination of a correlation function for frequency fluctuations from absorption measurements in far wings of the lines —A. P. Galtsev. 36(2), 178–80 (Feb. 1974); CPM-7406X0538

Effect of intermolecular interactions on the vibrational spectra of molecules. 13: Intensities and frequencies of the ir band of the antisymmetric stretching vibration of CS_2 —S. Kh. Akopyan, O. P. Girin, and N. G. Bakhshiev. 36(2), 185–8 (Feb. 1974); CPM-7406X0545

Infrared emission of carbon dioxide in the 3000–8500 K temperature range —A. A. Konkov and A. V. Vorontsov. **36**(3), 267–70 (Mar. 1974); CPM-7407X0953

Calculation of the vibrational spectra of methyl propionate and ethyl propionate —V. I. Vakhlyueva, N. A. Kuznetsov, L. M. Sverdlov, and A. L. Smolyanskii. **36**(3), 277–9 (Mar. 1974); CPM-7407X0963

Experimental study of the radiation of H_2O and OH fundamental bands at high temperatures —A. A. Konkov and A. V. Vorontsov. **36**(4), 378–80 (Apr. 1974); CPM-7408X0160

Vibration spectra of tetramethyl compounds of elements of group IV —A. M. Pyndyk, M. R. Aliev, and V. T. Aleksanyan. **36**(4), 393–6 (Apr. 1974); CPM-7408X0175

Calculation of the infrared absorption spectrum of ethylamine —L. A. Gribov, M. P. Noskova, and I. N. Krupennikova. **36**(4), 466–7 (Apr. 1974); CPM-7408X0248

Study of some absorption lines of the water–vapor rotational spectrum in the 100–600 μm region —B. A. Sverdlov and N. I. Furashov. **36**(5), 503–6 (May 1974); CPM-7409X1431

Temperature and concentration dependence of the Raman spectra of liquids —N. V. Bogachev and O. G. Bokov. **36**(5), 516–8 (May 1974); CPM-7409X1444

Allowance for the anisotropy of the polarizability of molecules in the theory of the intensity of the vibrational spectra of liquids. I. Intensity of Raman scattering in liquids —O. G. Bokov. **36**(5), 519–21 (May 1974); CPM-7409X1447

Calculation of the vibrational spectra of cyanuric and trithiocyanuric acids —B. Ya. Shtenberg, Yu. I. Mushkin, and A. I. Finkelshtein. **36**(5), 525–7 (May 1974); CPM-7409X1453

Vibrational spectra and geometrical structure of Aniline and Alpha, Beta, and Gamma Aminopyridines —V. I. Berezin and M. D. Elkin. **36**(5), 528–31 (May 1974); CPM-7409X1456

Allowance for the anisotropy of the polarizability of molecules in the theory of the intensity of the vibrational spectra of liquids. 2: Breakdown of the correlation between the intensities of the Raman scattering of light in the liquid and gaseous phase —O. G. Bokov. **36**(6), 647–9 (Jun. 1974); CPM-7410X1009

Calculation and interpretation of the infrared spectra of ortho–and meta–dicarboclosododecaboranes —T. P. Klimova, L. A. Gribov, and V. I. Stanko. **36**(6), 650–3 (Jun. 1974); CPM-7410X1012

Infrared spectra of a cryosystem: carbon tetrafluoride —R. Akhmedzhanov, V. V. Bertsev, M. O. Bulanin, and L. A. Zhigula. **36**(6), 709–10 (Jun. 1974); CPM-7410X1071

Structure of the vibrational band of hydrogen in various liquid solutions —N. D. Orlova and L. A. Pozdnyakova. **36**(6), 712–3 (Jun. 1974); CPM-7410X1074

Absorption of aniline in the 751–cm^{-1} region near the critical solution point of an aniline–cyclohexane mixture —A. I. Mardaeva and A. F. Bondarev. **36**(6), 713–4 (Jun. 1974); CPM-7410X1075

Nature of the fine structure of Co^{2+} bands in MeF_2 —A. L. Stolov and Zh. S. Yakovleva. **36**(6), 720–1 (Jun. 1974); CPM-7410X1082

Measurement of the pressure broadening and shift of the NH_3 vibration–rotation line (asQ(5,3) ν_2) by the method of out–of–resonance CO_2 laser radiation —V. S. Letokhov, A. G. Platova, and O. A. Tumanov. **37**(1), 29–30 (Jul. 1974)

Infrared spectra of spinel solid solutions and their description by the cluster components method —V. M. Talanov, B. N. Varskoi, Yu. P. Vorobev, A. A. Iovlev, A. N. Men, and A. V. Serebryakova. **37**(2), 212–3 (Aug. 1974)

Infrared spectra of cryosystems. 2: Sulfur hexafluoride —V. V. Bertsev, T. D. Kolomiitseva, and N. M. Tsyganenko. **37**(3), 263–4 (Sep. 1974)

Raman spectra of metal phthalocyanines and their negative ions —I. V. Aleksandrov, Ya. S. Bobovich, V. G. Maslov, and A. N. Sidorov. **37**(3), 265–9 (Sep. 1974)

Amplification of infrared radiation using induced Raman scattering in the excited vibrational levels of molecules —B. A. Medvedev and O. M. Parshov. **37**(3), 270–2 (Sep. 1974)

Vibrational spectral of mixed naphthalene–β–naphthol molecular crystals —V. P. Fedorov, E. M. Averyanov, and V. V. Kind. **37**(3), 286–7 (Sep. 1974)

Infrared spectra and orientation of molecules in an alpha–CuPC sublimated layer —K. Z. Ogorodnik. **37**(3), 339–40 (Sep. 1974)

Calculation of the intensities in the infrared spectra of molecules by the MO LCAO method in the approximation of neglecting two–atom differential overlap —Yu. V. Kamenskii, I. F. Kovalev, and I. D. Molodenkova. **37**(4), 379–80 (Oct. 1974)

Theory of Rayleigh and Raman scattering in molecular in molecular crystals —E. N. Ivanov. **37**(4), 381–4 (Oct. 1974)

Spectral evidence and mechanisms of intermolecular interactions involving bipolar molecules —I. E. Boldeskul, G. A. Kalyagin, Yu. P. Makovetskii, and E. V. Ryltsev. **37**(4), 459–60 (Oct. 1974)

Induction mechanism of the translational spectrum of the H_2+Ar, H_2+Kr, and H_2+Xe systems —V. A. Ryzhov and M. V. Tonkov. **37**(5), 476–8 (Nov. 1974)

Vibrational and rotational relaxation of molecules in several liquids on the basis of Raman spectra —A. E. Boldeskul, S. S. Esman, and V. E. Pogorelov. **37**(5), 521–4 (Nov. 1974)

Calculation and interpretation of the infrared spectra of methyl ethynyl ketone —K. M. Danchinov, D. N. Shigorin, and V. B. Pukhnarevich. **37**(6), 667–8 (Dec. 1974)

32.60.G MODOR and PMDR (microwave optical double resonance spectroscopy, phosphorescence microwave double resonance spectroscopy)

The 11th European Congress on Molecular Spectroscopy (EÇMS–X1) —N. N. Kristofel. **36**(3), 358–60 (Mar. 1974); CPM-7407X1044

32.60.J Visible and ultraviolet spectra

Separation of the contributions from universal intermolecular interactions and intermolecular interactions and intermolecular hydrogen bonds to the observed shifts of electronic bands. 3: Study of the n→σ* band of certain aliphatic ketones —G. Ya. Zelikina and T. G. Meister. **36**(1), 46–8 (Jan. 1974); CPM-7406X0406

Determination of the polarization of electronic transitions in molecules of low symmetry by the dichroism method. 2: monosubstituted naphthalenes —K. R. Popov. **36**(1), 65–6 (Jan. 1974); CPM-7406X0425

Some regularities in the vibrational structure of the fluorescence and absorption spectra of aromatic hydrocarbon molecules —T. N. Bolotnikova and O. F. Elnikova. **36**(2), 168–71 (Feb. 1974); CPM-7406X0528

Determination of the rotational temperature from the intensity of electronic–vibrational bands in spectra with unresolved rotational structure —D. I. Slovetskii and A. S. Sokolov. **36**(3), 265–6 (Mar. 1974); CPM-7407X0951

Some relationships in the vibration structure of fluorescence and absorption spectra of aromatic–hydrocarbon molecules. 2: Nonperturbed transitions. —T. N. Bolotnikova and O. F. Elnikova. **36**(4), 397–9 (Apr. 1974); CPM-7408X0179

Relation between the observed and true absorption spectra of molecules in a condensed medium. 9: Effects of solvents on the intensity and shape of the electronic bands of dyes —V. M. Korovina and N. G. Bakhshiev. **36**(5), 510–1 (May 1974); CPM-7409X1438

Spectral properties of alpha–methyl and alpha–silyketones. 1: Use of the method of complete disregard of differential overlapping in studying the spectral properties of the acetone molecule —L. V. Orlovskaya, I. V. Sokolova, and A. F. Terpugova. **36**(5), 512–5 (May 1974); CPM-7409X1440

Some relationships in the vibrational structure of the fluorescence and absorption spectra of aromatic–hydrocarbon molecules. 3: Vibronically perturbed transitions —T. N. Bolotnikova and O. F. Elnikova. **36**(5), 522–4 (May 1974); CPM-7409X1450

Rotational structure of the 5472–5463Å band of calcium oxide —G. A. Volnyets, G. V. Kovalenok, and V. A. Sokolov. **36**(5), 609–700 (May 1974); CPM-7409X1537

Nature of the fine structure of Co^{2+} bands in MeF_2 —A. L. Stolov and Zh. S. Yakovleva. **36**(6), 720–1 (Jun. 1974); CPM-7410X1082

Polarization of electronic transitions in the absorption spectrum of benzalaniline —S. P. Maiburov, K. R. Popov, and L. V. Smirnov. **37**(2), 205–6 (Aug. 1974)

Allowance for delayed interaction in the theory of the exciton optical activity of molecules —V. A. Morozov. **37**(6), 627–8 (Dec. 1974)

32.60.K Vacuum ultraviolet spectra

Absorption spectra of bases of nucleic acids (110–300 nm) and their luminescence excited in the vacuum ultraviolet region —I. P. Vinogradov, V. V. Zemskikh, and N. Ya. Dononova. **36**(3), 344–5 (Mar. 1974); CPM-7407X1030

Continuous spectrum in the vacuum ultraviolet region emitted by a supersonic argon jet excited by an electron beam —E. T. Verkhovtseva, V. I. Yaremenko, A. E. Ovechkin, and Ya. M. Fogel. 37(2), 126–8 (Aug. 1974)

Electronic and vibrational states of biphenyl–based molecules. 3: Determination of the polarization of the electronic and electronic–vibrational transitions of the carbazole and dibenzofuran molecules from the hypochromy in their crystal spectra —V. L. Grebneva, L. A. Nakhimovskaya, K. R. Popov, L. V. Smirnov, and G. V. Sukhina. 37(5), 504–6 (Nov. 1974)

32.60.L X-ray spectra

K-absorption spectrum of nitrogen in the N_2 molecule —A. S. Vinogradov, B. Shlarbaum, and T. M. Zimkina. 36(4), 383–5 (Apr. 1974); CPM-7408X0165

32.60.N Fluorescence, radiationless transitions, and intersystem crossing

New data on the quasilinear fluorescence spectrum of anthracene vapor —S. O. Mirumyants, E. A. Vanbynkov, Yu. S. Demchuk, and Yu. S. Nagulin. 36(1), 52–4 (Jan. 1974); CPM-7406X0412

Some regularities in the vibrational structure of the fluorescence and absorption spectra of aromatic hydrocarbon molecules —T. N. Bolotnikova and O. F. Elnikova. 36(2), 168–71 (Feb. 1974); CPM-7406X0528

Hot vibronic transitions and lifetimes of the vibrational states of the perylene molecule —T. B. Tamm and P. M. Saari. 36(2), 189–92 (Feb. 1974); CPM-7406X0549

Triplet–triplet energy transfer and radiationless processes in nonluminescing metalloporphyrin molecules —M. P. Tsvirko, K. N. Solovev, and V. V. Sapunov. 36(2), 193–5 (Feb. 1974); CPM-7406X0553

Luminescence spectrum kinetics of polar solutions —Yu. T. Mazurenko. 36(3), 283–6 (Mar. 1974); CPM-7407X0969

Concentration quenching of luminescence in alcohol solutions of rhodamine dyes —L. V. Levshin, E. Yu. Bekhli, T. D. Slavnova, and V. I. Yuzhakov. 36(3), 290–3 (Mar. 1974); CPM-7407X0976

Nature of the quasi–line absorption and fluorescence centers in frozen n–paraffin solutions of aromatic compounds. 2: Spatial separation of the types of center —L. A. Mishina and L. A. Nakhimovskaya. 36(3), 298–9 (Mar. 1974); CPM-7407X0984

The $\lambda = 4600$–Å band in a spectrum produced by pulsed photolysis of chromium carbonyl —Yu. M. Efremov, A. N. Samoilova, and L. V. Gurvich. 36(4), 381–2 (Apr. 1974); CPM-7408X0163

Some relationships in the vibration structure of fluorescence and absorption spectra of aromatic–hydrocarbon molecules. 2: Nonperturbed transitions. —T. N. Bolotnikova and O. F. Elnikova. 36(4), 397–9 (Apr. 1974); CPM-7408X0179

Fluorescence quenching of chlorophyll and related compounds by nitro compounds —S. L. Bondarev and G. P. Gurinovich. 36(4), 400–2 (Apr. 1974); CPM-7408X0182

Mechanism of energy transfer from ketones to rare earth ions. 4: effect of solvent and temperature. Intramolecular and diffusion transfer —E. B. Sveshnikova, V. F. Morina, and V. L. Ermolaev. 36(4), 421–5 (Apr. 1974); CPM-7408X0203

Influence of a heavy atom on the spectral–luminescent properties of molecules characterized by electronic excited states of different nature —D. N. Shigorin and N. A. Shcheglova. 36(4), 464 (Apr. 1974); CPM-7408X0246

Some relationships in the vibrational structure of the fluorescence and absorption spectra of aromatic–hydrocarbon molecules. 3: Vibronically perturbed transitions —T. N. Bolotnikova and O. F. Elnikova. 36(5), 522–4 (May 1974); CPM-7409X1450

Character of the change in lifetime during oxygen quenching of the afterglow of adsorbates —I. A. Zakharov, T. I. Grishaeva, and V. B. Aleskovskii. 36(5), 541–4 (May 1974); CPM-7409X1469

Stepwise excitation of anti–Stokes fluorescence and photochemical processes in solutions of polymethine dyes —E. N. Kaliteevskaya and T. K. Razumova. 36(6), 654–7 (Jun. 1974); CPM-7410X1016

Theory of the spectrum of circular dichroism for molecules having overlapping absorption bands. Nondiagonal matrix of radiationless decay —V. A. Morozov. 37(1), 61–4 (Jul. 1974)

Nature of the Cotton effect in tetralins —M. P. Kruchek. 37(1), 114–5 (Jul. 1974)

Approximation of a sudden change in the type of coupling for intramolecular transitions —E. I. Dashevskaya, F. Masnou–Seeuws, R. McCarroll, and E. E. Nikitin. 37(2), 119–22 (Aug. 1974)

Effect of the relationship between the intensities of hyperfine components of exciting light on the collisional depolarization of fluorescence —V. N. Rebane. 37(2), 123–5 (Aug. 1974)

Laser photolysis of porphyrin complexes with transitions metal ions — B. M. Dzhagarov, G. P. Gurinovich, and A. M. Simonov. 37(2), 146–8 (Aug. 1974)

Effect of polymorphism of N–paraffin crystals on the luminescence of additive coronene molecules —D. M. Grebenshchikov, N. A. Kovizhnykh, and S. A. Kozlov. 37(2), 155–7 (Aug. 1974)

Energy levels of the Ce^{3+} ($4f^1$) ion in the calcite–type crystals MBO_3 (M = Sc, Lu) —N. V. Starostin and S. A. Titov. 37(2), 158–9 (Aug. 1974)

Determination of energy of intermolecular hydrogen bond in the ground and first excitation states for the system 1–azaphenan–threne–phenylic acid —V. P. Klindukhov and T. G. Meister. 37(2), 207–9 (Aug. 1974)

Fluorescence quenching of organic vapors by a radiation field —V. L. Bogdanov, V. P. Klochkov, and B. S. Neporent. 37(2), 214–5 (Aug. 1974)

Modulation of the quantum yield of the fluorescence of excited complexes by a weak magnetic field —E. L. Frankevich, B. M. Rumyantsev, and V. I. Lesin. 37(2), 215–6 (Aug. 1974)

Influence of the transfer of electronic energy on the luminescence of styrene monomer containing a trace of polystyrene —Yu. N. Demikhov, A. N. Faidysh, and V. N. Yashchuk. 37(4), 389–91 (Oct. 1974)

Depolarization of fluorescence during decay, using multichannel time analysis —L. V. Volodko, M. I. Demchuk, I. N. Kozlov, A. M. Sarzhevskii, and A. F. Chernyavski. 37(4), 392–4 (Oct. 1974)

Sensitized phosphorescence of naphthalene in toluene at 77K —T. N. Bolotnikova and L. K. Artemova. 37(4), 443–4 (Oct. 1974)

Two–photon absorption spectra of organic dye molecules —E. B. Aslanidi and E. A. Tikhonov. 37(4), 446–7 (Oct. 1974)

Line spectra of phthalocyanines at 4.2 K and certain special features of their multiplet structure —O. N. Koromaev and R. I. Personov. 37(5), 507–9 (Nov. 1974)

Effect of deuteration of the solvent on the rate constants for fluorescence quenching in solutions of organic luminors —A. V. Aristov, E. N. Viktorova, and A. P. Serov. 37(5), 576–7 (Nov. 1974)

Efficiency of the vibrational deactivation and quenching of an electronically excited I_2 molecule–E. D. Bugrim, S. N. Makrenko, and I. L. Tsikora. 37(6), 610–2 (Dec. 1974)

Electronic and vibrational states of molecules based on biphenyl. 4: classification of the electronic transitions —K. R. Popov, L. V. Smirnov, V. L. Grebneva, and L. A. Nakhimovskaya. 37(6), 613–6 (Dec. 1974)

Radioluminescence of solid solutions of naphthalene–d_8 in methylcyclohexane and butyl chloride under x–ray irradiation —I. A. Lisovskaya and M. V. Alfimov. 37(6), 624–6 (Dec. 1974)

Effect of complex formation on nonradiative energy transfer between ions in liquid solutions —V. P. Gruzdev and V. L. Ermolaev. 37 (6), 629–32 (Dec. 1974)

Optical saturation during high–power excitation of luminescence in the vapors of complex organic compounds —V. V. Danilov, Yu. T. Mazurenko, and M. A. Ter–Pogosyan. 37(6), 678–80 (Dec. 1974)

Determination of the probabilities of relaxation processes in complex organic molecules from the relaxation shift of laser spectra–B. S. Neporent, V. B. Shilov, and G. V. Lukomskii. 37(6), 682–3 (Dec. 1974)

32.60.P Diffuse spectra; photoionization, autoionization, dissociation, and predissociation

Photoelectron spectra of a number of substitution products of thiophosphoryl chloride —V. I. Vovna, S. N. Lopatin, R. Pettsold, F. I. Vilesov, and M. E. Akopyan. 36(1), 99–102 (Jan. 1974); CPM-7406X0459

Two–photon ionization of H^+_2 —V. A. Davydkin and L. P. Rapoport. 36(2), 141–4 (Feb. 1974); CPM-7406X0501

Photoelectron spectra and the structure of molecular orbitals of methyl amines —V. I. Vovna and F. I. Vilesov. 36(2), 251–2 (Feb. 1974); CPM-7406X0611

Bimolecular ionization of excited CH_3I molecules —V. S. Ivanov and F. I. Vilesov. 36(5), 602–3 (May 1974); CPM-7409X1530

Photodissociation and photorecombination emission of diatomic molecules —A. V. Eletskii, B. M. Smirnov, and G. V. Shlyapnikov. 36(6), 630–4 (Jun. 1974); CPM-7410X0992

Characteristics of the formation of infrared absorption bands of polyatomic vapor molecules —N. A. Borisevich and G. A. Zalesskaya. 37(1), 38–40 (Jul. 1974)

Photoelectron spectra of trimethylamine derivatives —M. E. Akopyan and Yu. V. Loginov. 37(3), 250–2 (Sep. 1974)

32.60.R Oscillator strengths, absolute intensities, and relative intensities, Frank–Condon factors, and line widths and shapes

A distinctive feature of the absorption function of an isolated spectral line with a dispersion profile —D. S. Ermakov. 36(2), 136–7 (Feb. 1974); CPM-7406X0496

Restoration of optical spectra and other nonnegative functions by the statistic regularization method —V. F. Turchin and L. S. Turovtseva. 36(2), 162–5 (Feb. 1974); CPM-7406X0522

Use of the regularization method for determining the true profiles of spectral lines —I. D. Molodenkova and I. F. Kovalev. 36(2), 166–7 (Feb. 1974); CPM-7406X0526

Determination of a correlation function for frequency fluctuations from absorption measurements in far wings of the lines —A. P. Galtsev. 36(2), 178–80 (Feb. 1974); CPM-7406X0538

Effect of intermolecular interactions on the vibrational spectra of molecules. 13: Intensities and frequencies of the ir band of the antisymmetric stretching vibration of CS_2 —S. Kh. Akopyan, O. P. Girin, and N. G. Bakhshiev. 36(2), 185–8 (Feb. 1974); CPM-7406X0545

Relation between the observed and true absorption spectra of molecules in a condensed medium. 9: Effects of solvents on the intensity and shape of the electronic bands of dyes —V. M. Korovina and N. G. Bakhshiev. 36(5), 510–1 (May 1974); CPM-7409X1438

Temperature and concentration dependence of the Raman spectra of liquids —N. V. Bogachev and O. G. Bokov. 36(5), 516–8 (May 1974); CPM-7409X1444

Allowance for the anisotropy of the polarizability of molecules in the theory of the intensity of the vibrational spectra of liquids. I. Intensity of Raman scattering in liquids —O. G. Bokov. 36(5), 519–21 (May 1974); CPM-7409X1447

Some relationships in the vibrational structure of the fluorescence and absorption spectra of aromatic-hydrocarbon molecules. 3: Vibronically perturbed transitions —T. N. Bolotnikova and O. F. Elnikova. 36(5), 522–4 (May 1974); CPM-7409X1450

Light echo in a nonuniform external field —A. I. Alekseev and I. V. Evseev. 36(6), 692–4 (Jun. 1974); CPM-7410X1054

Theory of the spectrum of circular dichroism for molecules having overlapping absorption bands. Nondiagonal matrix of radiationless decay —V. A. Morozov. 37(1), 61–4 (Jul. 1974)

Lifetimes of the $^3P^0_1$ level of YbI and the $^2P^0_{3/2,1/2}$ level of YbII —M. L. Burshtein, Ya. F. Verolainen, V. A. Komarovskii, A. L. Osherovich , and N. P. Penkin. 37(4), 351–2 (Oct. 1974)

Calculation of the intensities in the infrared spectra of molecules by the MO LCAO method in the approximation of neglecting two-atom differential overlap —Yu. V. Kamenskii, I. F. Kovalev, and I. D. Molodenkova. 37(4), 379–80 (Oct. 1974)

Filling of high-excitation states of cesium atoms —V. S. Vorobev and A. I. Gleizer. 37(4), 450 (Oct. 1974)

32.60.T Calculation of rotational and vibrational levels, and interactions (including nonrigid rotors and anharmonic oscillators)

Reduction of the rotational Hamiltonian of molecules of the asymmetric rotor type —V. N. Bryukhanov and Yu. S. Makushkin. 36(1), 39–40 (Jan. 1974); CPM-7406X0399

Molecular constants of hydrogen peroxide. 5: Force constants —I. N. Przhevalskii and G. A. Khachkuruzov. 36(2), 175–7 (Feb. 1974); CPM-7406X0535

Rotational spectra of dipolar-unstable symmetrical polyatomic systems —I. B. Bersuker, I. Ya. Ogurtsov, and Yu. V. Shaparev. 36(2), 181–4 (Feb. 1974); CPM-7406X0541

Energy operator for an effective semirigid rotator —V. N. Bryukhanov and Yu. S. Makushkin. 36(3), 271–3 (Mar. 1974); CPM-7407X0957

Determination of the potential surface and analysis of the anharmonic vibrations of the water molecule —L. A. Gribov and G. V. Khovrin. 36(3), 274–6 (Mar. 1974); CPM-7407X0960

Calculation of the vibrational spectra of methyl propionate and ethyl propionate —V. I. Vakhlyueva, N. A. Kuznetsov, L. M. Sverdlov, and A. L. Smolyanskii. 36(3), 277–9 (Mar. 1974); CPM-7407X0963

Calculation of the vibrational spectra of cyanuric and trithiocyanuric acids —B. Ya. Shtenberg, Yu. I. Mushkin, and A. I. Finkelshtein. 36(5), 525–7 (May 1974); CPM-7409X1453

Vibrational spectra and geometrical structure of Aniline and Alpha, Beta, and Gamma Aminopyridines —V. I. Berezin and M. D. Elkin. 36(5), 528–31 (May 1974); CPM-7409X1456

Calculation of the potential surfaces of the H_2S and CO_2 molecules — L. A. Gribov and G. V. Khovrin. 36(6), 642–4 (Jun. 1974); CPM-7410X1004

Allowance for the anisotropy of the polarizability of molecules in the theory of the intensity of the vibrational spectra of liquids. 3: Allowance for intermolecular interaction in the solution of the inverse electro-optical problem in carbon tetrachloride —N. V. Bogachev. 36(6), 645–6 (Jun. 1974); CPM-7410X1007

Allowance for the anisotropy of the polarizability of molecules in the theory of the intensity of the vibrational spectra of liquids. 2: Breakdown of the correlation between the intensities of the Raman scattering of light in the liquid and gaseous phase —O. G. Bokov. 36(6), 647–9 (Jun. 1974); CPM-7410X1009

Infrared spectra of a cryosystem: carbon tetrafluoride —R. Akhmedzhanov, V. V. Bertsev, M. O. Bulanin, and L. A. Zhigula. 36(6), 709–10 (Jun. 1974); CPM-7410X1071

Structure of the vibrational band of hydrogen in various liquid solutions —N. D. Orlova and L. A. Pozdnyakova. 36(6), 712–3 (Jun. 1974); CPM-7410X1074

Solution of the inverse vibrational problem for the phosgene molecule using vibrational-rotational constants and inertia defects —L. M. Sverdlov and L. A. Razbegaeva. 36(6), 718–9 (Jun. 1974); CPM-7410X1080

Model of collective π-electron motion in molecules. Part 2 —L. V. Iogansen and V. V. Malov. 37(1), 25–8 (Jul. 1974)

Probabilities of vibrational-rotational transitions in diatomic molecules —Yu. S. Makushkin and V. G. Tyuterev. 37(1), 31–4 (Jul. 1974)

Characteristics of the formation of infrared absorption bands of polyatomic vapor molecules —N. A. Borisevich and G. A. Zalesskaya. 37(1), 38–40 (Jul. 1974)

Allowance for the influence of substitution on the force field of an aromatic ring —V. I. Berezin and M. D. Elkin. 37(2), 136–8 (Aug. 1974)

Calculation of the frequencies and forms of the normal vibrations of the gauche and trans rotational isomers of 2-chloro- and 2-bromoethylamine —L. V. Sennitskaya, Yu. D. Timoshenkova, Yu. A. Pentin, and B. S. Kikot. 37(2), 139–41 (Aug. 1974)

Saturation in molecular systems —V. F. Papulovskii. 37(2), 142–3 (Aug. 1974)

Allowance for intermolecular interaction in the solution of the direct electron-optical porblem for the chloroform molecule —N. V. Bogachev. 37(2), 209–10 (Aug. 1974)

Infrared spectra of spinel solid solutions and their description by the cluster components method —V. M. Talanov, B. N. Varskoi, Yu. P. Vorobev, A. A. Iovlev, A. N. Men, and A. V. Serebryakova. 37 (2), 212–3 (Aug. 1974)

Sum rules for frequency squares and vibration frequencies of phenyl halides —Yu. S. Korostelev, N. A. Korosteleva, and L. M. Sverdlov. 37(2), 218–9 (Aug. 1974)

Some possible mechanisms for molecular influence on the properties of an atomic-molecular plasma —A. M. Shukhtin and G. A. Fedotov. 37(2), 219–20 (Aug. 1974)

Profiles of spectral lines —A. P. Galtsev. 37(3), 238–41 (Sep. 1974)

Arbitrariness in the selection of symmetry coordinates —I. N. Godnev, V. N. Vinogradova, and M. I. Godneva. 37(3), 253–6 (Sep. 1974)

Analysis of the anharmonic vibrations and potential surface of the ammonia molecule —L. A. Gribov and G. V. Khovrin. 37(3), 257–9 (Sep. 1974)

Calculation of the planar vibrations of the skeleton of polymeric cyclicmolecules of the polyacene type —L. I. Maklakov and V. L. Furer. 37(3), 260–2 (Sep. 1974)

$\tau_{\alpha\beta\gamma\delta}$ coefficients of $(CH_3)_2X$(X=O,S,Se,Te) molecules —V. S. Timoshinin. 37(3), 343–4 (Sep. 1974)

Highly excited vibrational–rotational states of molecules by the method of selective losses in the resonator of a laser —T. P. Belikova, E. A. Sviridenkov, and A. F. Suchkov. **37**(4), 372–5 (Oct. 1974)

Method of an effective nonrigid rotor in the theory of molecular vibrational–rotational spectra —Yu. S. Makushkin. **37**(4), 376–8 (Oct. 1974)

Rotation of polyatomic molecules in vapors using infrared absorption band profiles —G. A. Zalesskaya and V. A. Lastochkina. **37**(5), 501–3 (Nov. 1974)

Vibrational and rotational relaxation of molecules in several liquids on the basis of Raman spectra —A. E. Boldeskul, S. S. Esman, and V. E. Pogorelov. **37**(5), 521–4 (Nov. 1974)

32.60.W Calculation of vibronic and rovibronic interactions, and rotation–electron–spin interactions (including Hund's coupling cases, Renner–Teller effects, etc.)

Hot vibronic transitions and lifetimes of the vibrational states of the perylene molecule —T. B. Tamm and P. M. Saari. **36**(2), 189–92 (Feb. 1974); CPM-7406X0549

Determination of the rotational temperature from the intensity of electronic–vibrational bands in spectra with unresolved rotational structure —D. I. Slovetskii and A. S. Sokolov. **36**(3), 265–6 (Mar. 1974); CPM-7407X0951

Observation of vibrations of b_{2g} symmetry in the vibronic spectra of naphthalene-h_8 and -d_8 crystals —I. P. Terenetskaya. **37**(5), 560–2 (Nov. 1974)

32.80.– Magnetic resonances and relaxation in molecules

Calculation of the g-factor anisotropy in the approximation of total neglect of differential overlapping while including spin–orbital interaction —B. F. Minaev. **36**(2), 159–61 (Feb. 1974); CPM-7406X0519

34. COLLISION PROCESSES AND INTERACTIONS OF MOLECULES, ATOMS, OR IONS

34.20.– Intermolecular potentials and forces

Broadening by inert gases of europium lines due to $a^8{}_{7/2} - y^8P_{9/2,7/2,5/2}$ transitions —N. P. Penkin and L. N. Shabanova. **36** (1), 10–2 (Jan. 1974); CPM-7406X0370

Potentials for the interaction between certain metal atoms and inert gas atoms —L. N. Shabanova. **36**(1), 13–5 (Jan. 1974); CPM-7406X0373

Parameters of loosely bound molecular ions —L. Ya. Efremenkova, A. A. Radsig, and B. M. Smirnov. **36**(1), 35–8 (Jan. 1974); CPM-7406X0395

Effect of intermolecular interactions on the vibrational spectra of molecules. 12: Statistical character of the manifestation of intermolecular forces and rotational motion in the shape of vibrational–rotational bands of simple molecules in solution —G. I. Baranova, P. I. Zelikman, and N. G. Bakhshiev. **36**(1), 41–5 (Jan. 1974); CPM-7406X0401

Effect of intermolecular interactions on the vibrational spectra of molecules. 13: Intensities and frequencies of the ir band of the antisymmetric stretching vibration of CS_2 —S. Kh. Akopyan, O. P. Girin, and N. G. Bakhshiev. **36**(2), 185–8 (Feb. 1974); CPM-7406X0545

Luminescence spectrum kinetics of polar solutions —Yu. T. Mazurenko. **36**(3), 283–6 (Mar. 1974); CPM-7407X0969

Allowance for the anisotropy of the polarizability of molecules in the theory of the intensity of the vibrational spectra of liquids. 3: Allowance for intermolecular interaction in the solution of the inverse electro-optical problem in carbon tetrachloride —N. V. Bogachev. **36**(6), 645–6 (Jun. 1974); CPM-7410X1007

Sturm expansion of a two-particle Coulomb Green's function —S. V. Khristenko and S. I. Vetchinkin. **37**(6), 583–5 (Dec. 1974)

34.50.– Inelastic processes

Collisions of the second kind in the afterglow of a discharge in a mixture of argon and nitrogen —O. P. Bochkova, N. V. Chernysheva, and Yu. A. Tolmachev. **36**(1), 19–21 (Jan. 1974); CPM-7406X0379

34.50.F Vibrational energy transfer

Study of vibrational relaxation of carbon dioxide in He, Ar, and Xe mixtures using the spectrophone method —E. N. Rityn. **36**(2), 248–9 (Feb. 1974); CPM-7406X0608

Vibrational relaxation of the nitrous oxide molecule —P. V. Slobodskaya. **36**(2), 250–1 (Feb. 1974); CPM-7406X0610

34.50.H Electronic excitation and ionization (including beam foil excitation)

Excitation of Ar II, Kr II, and Xe II ions by He and Ne metastable atoms in the afterglow of a glow discharge —O. P. Bochkova, I. A. Zubkova, and S. E. Frish. **36**(1), 16–8 (Jan. 1974); CPM-7406X0376

Doubling of excitation in the case of thermal collision of resonantly excited cesium atoms —V. M. Borodin and I. V. Komarov. **36**(2), 145–9 (Feb. 1974); CPM-7406X0505

Population of highly excited mercury levels in the case of collision of two excited atoms in the 6^3P_{012} states —O. P. Bochkova, E. Gamarts, and Yu. A. Tolmachev. **36**(2), 150–1 (Feb. 1974); CPM-7406X0510

Penning effect in the collision with an excited helium ion. 1. —V. A. Kvlividze and P. A. Svotin. **37**(1), 7–9 (Jul. 1974)

Approximation of a sudden change in the type of coupling for intramolecular transitions —E. I. Dashevskaya, F. Masnou-Seeuws, R. McCarroll, and E. E. Nikitin. **37**(2), 119–22 (Aug. 1974)

Radioluminescence of leucosapphire and ruby under electron excitation —T. S. Bessonova, M. P. Stanislavskii, V. I. Tumanov, and V. Ya. Khaimov-Malkov. **37**(2), 160–3 (Aug. 1974)

Inelastic collisions between highly excited atoms and inert-gas atoms —V. A. Smirnov. **37**(3), 231–2 (Sep. 1974)

Penning effect in collision with an excited helium ion. 2 —V. A. Kvlividze, N. V. Laktionov, and P. A. Svotin. **37**(3), 344–5 (Sep. 1974)

Kinetics of filling of helium levels excited by an electron beam —I. P. Bogdanova, S. E. Erish, and V. I. Yakovleva. **37**(4), 462–4 (Oct. 1974)

Measurement of the total cross section for electron impact excitation of a 5^3P_0 metastable level of cadmium —M. A. Mazing, V. I. Rakhovskii, G. I. Stotskii, and V. M. Shustryakov. **37**(4), 464–5 (Oct. 1974)

Calculation of probabilities for collision-induced transitions between levels of hyperfine structure of atoms —V. N. Rebane and A. G. Petrashen. **37**(5), 472–5 (Nov. 1974)

Collision of highly excited atoms —A. P. Kazantsev. **37**(6), 589–90 (Dec. 1974)

34.70.– Electron scattering

34.70.D Atomic excitation and ionization by electron impact

Broadening and shift of the 0.63-μm neon line under the action of the discharge current —Im Tkhek-de, V. P. Kochanov, S. G. Rautian, E. G. Saprykin, and A. M. Shalagin. **36**(2), 152–4 (Feb. 1974); CPM-7406X0512

Cross sections for electron–impact excitation and mixing of the $6^3P_{0,1,2}$ levels of a mercury atom —N. P. Penkin and T. P. Redko. **36**(3), 258–61 (Mar. 1974); CPM-7407X0944

Excitation of metastable levels in np^2 configurations —P. A. Bokhan and G. S. Kiyashkina. **36**(3), 262–4 (Mar. 1974); CPM-7407X0948

Effective cross sections and peculiarities of electron excitation of the cadmium atom —V. V. Sovter, I. P. Zapesochnyi, and O. B. Shpenik. **36**(5), 482–6 (May 1974); CPM-7409X1410

Step-by-step excitation in helium —G. N. Gerasimov and G. P. Startsev. **36**(5), 487–8 (May 1974); CPM-7409X1415

Excitation of resonance lines of K II in electron–atom collisions —V. S. Vukstich, I. S. Aleksakhin, and I. P. Zapesochnyi. **36**(5), 604–5 (May 1974); CPM-7409X1532

Electron impact excitation of alkaline earth atoms. III: Strontium (triplets) —I. S. Aleksakhin, I. I. Garga, I. P. Zapesochnii, and V. P. Starodub. 37(1), 10–3 (Jul. 1974)
Effect of polarization of the atomic residue on excitation cross sections of optical transitions of alkali atoms —I. L. Beigman and V. P. Shevel'ko. 37(4), 353–5 (Oct. 1974)
Kinetics of filling of helium levels excited by an electron beam —I. P. Bogdanova, S. E. Erish, and V. I. Yakovleva. 37(4), 462–4 (Oct. 1974)
Measurement of the total cross section for electron impact excitation of a 5^3P_0 metastable level of cadmium —M. A. Mazing, V. I. Rakhovskii, G. I. Stotskii, and V. M. Shustryakov. 37(4), 464–5 (Oct. 1974)
Electron impact excitation of alkaline earth atoms. IV: Calcium —I. I. Garga, I. S. Aleksakhin, V. P. Starodub, and I. P. Zapesochnii. 37 (5), 482–5 (Nov. 1974)
Interpretation of the pressure dependence of the effective level lifetime —Yu. A. Tolmachev. 37(5), 577–8 (Nov. 1974)

34.70.G Molecular excitation and ionization by electron impact

Excitation of CH_4 and C_2H_2 molecules by electron impact —V. T. Koppe, N. P. Danilevskii, A. G. Koval, and D. V. Pilipenko. 36(3), 347–8 (Mar. 1974); CPM-7407X1033

34.80.+ Charge transfer

Intermolecular interactions and the spectra of molecules in multicomponent solutions. 4. The effect of ions on the electronic spectra of molecules in aqueous solutions —G. A. Malikina and N. G. Bakhshiev. 37(1), 41–3 (Jul. 1974)
Electron transfer in atomic collisions —G. K. Ivanov. 37(4), 361–4 (Oct. 1974)
Charge exchange between helium ions and mercury atoms —I. P. Bogdanova, V. D. Marusin, and V. E. Yakhontova. 37(4), 365–8 (Oct. 1974)
Charge exchange between an atomic ion and a dipolar molecule —R. Z. Vitlina. 37(5), 559–60 (Nov. 1974)

34.90.+ Other topics in collision processes and interactions of molecules, atoms, or ions

Application of perturbation theory to the calculation of collisional depolarization of spectral lines with hyperfine structure —V. N. Rebane. 36(5), 598–9 (May 1974); CPM-7409X1526
Depolarizing collisions of atoms and the broadening of spectral lines —V. K. Matskevich. 37(3), 233–7 (Sep. 1974)

35. MACROMOLECULES AND POLYMERS

35.20.– Molecular structure of macromolecules and polymers

Optical absorption in the long-wavelength region and paramagnetism of polymers with conjugated bonds —A. A. Berlin, G. A. Vinogradov, and A. A. Ovchinnikov. 36(3), 354–5 (Mar. 1974); CPM-7407X1040
Calculation of the infrared spectral absorption curve of poly(ethylene glycol adipate) —L. A. Gribov, I. V. Zhitlova, and O. I. Kondratov. 36(5), 532–4 (May 1974); CPM-7409X1460
Characteristics of the formation of infrared absorption bands of polyatomic vapor molecules —N. A. Borisevich and G. A. Zalesskaya. 37(1), 38–40 (Jul. 1974)
Internal heavy-atom effect in porphyrin molecules. 2: Halogen derivatives of deuteroporphyrin IX—A. T. Gradyushko, D. T. Kozhich, K. N. Sokolev, and M. P. Tsvirko. 37(5), 510–2 (Nov. 1974)
Shift of vibrational frequencies accompanying static stretching of the polyethylene molecule —V. A. Kosobukin. 37(6), 617–20 (Dec. 1974)

35.90.+ Other topics in macromolecules and polymers

Optical absorption in the long-wavelength region and paramagnetism of polymers with conjugated bonds —A. A. Berlin, G. A. Vinogradov, and A. A. Ovchinnikov. 36(3), 354–5 (Mar. 1974); CPM-7407X1040
Theory of vibrations of three-dimensional ordered structures. Polymer crystals —L. A. Gribov. 37(1), 35–7 (Jul. 1974)
Quasi-resonant transfer of excitation energy in the CO_2–Hf system — P. F. Gruzdev and I. G. Preobrazhenskii. 37(3), 345–6 (Sep. 1974)

41. PHYSICS OF GASES

41.80.+ Optical properties

Angular dependence of secondary luminescence spectra of a gas system —L. M. Khayutin. 36(6), 635–8 (Jun. 1974); CPM-7410X0997
Resonance interaction of unidirectional waves in a gas in a magnetic field —E. V. Baklanov. 36(6), 687–9 (Jun. 1974); CPM-7410X1049
Influence of alignment of excited atoms on the light absorption coefficient in a gaseous medium —I. V. Rogova. 37(1), 4–6 (Jul. 1974)
Continuous spectrum in the vacuum ultraviolet region emitted by a supersonic argon jet excited by an electron beam —E. T. Verkhovtseva, V. I. Yaremenko, A. E. Ovechkin, and Ya. M. Fogel. 37(2), 126–8 (Aug. 1974)
Continuum intensity of an air plasma at T = 20,000 K —V. Yu. Vinogradov, L. S. Nikolaevskii, and I. V. Podmoshenskii. 37(2), 222 (Aug. 1974)

41.90.+ Other topics in the physics of gases

Hyperfine relaxation of Rb^{87} atoms in buffer gases —N. N. Yakobson. 37(3), 225–6 (Sep. 1974)
Diffusion coefficient for metastable atoms of mercury in argon —N. P. Penkin, T. P. Redko, and N. A. Kryukov. 37(4), 461–2 (Oct. 1974)

42. FLUID DYNAMICS

Emittance and radiative cooling of xenon heated by a shock wave — G. I. Koslov and D. I. Roitenburg. 36(5), 497–500 (May 1974); CPM-7409X1425
Investigation of an interferometer with a diffraction grating to study streamline flow around models in shock-wave tunnels —L. A. Vasilev and I. V. Ershov. 36(6), 695–8 (Jun. 1974); CPM-7410X1057

43. PLASMA PHYSICS

43.20.– Elementary processes in plasma

Recombination radiation and bremsstrahlung of an oxygen plasma — N. S. Gruzdeva, L. S. Nikolaevskii, and I. V. Podmoshenskii. 36 (5), 501–2 (May 1974); CPM-7409X1429
Study of collisions of the second kind between $Hg(6^3P_{0,1})$ atoms and slow electrons in an Hg+CO mixture —S. M. Kazakov, A. I. Korotkov, and N. A. Prilezhaeva. 36(6), 620–4 (Jun. 1974); CPM-7410X0982
Some possible mechanisms for molecular influence on the properties of an atomic-molecular plasma —A. M. Shukhtin and G. A. Fedotov. 37(2), 219–20 (Aug. 1974)

43.25.– Plasma theory: basic properties and thermodynamics

Deviation from ionization equilibrium in a two-temperature mixture of atomic gases —L. S. Polak and D. I. Slovetskii. 36(6), 618–9 (Jun. 1974); CPM-7410X0980
Quantum phenomena in coherent-radiation transfer. Part 1 —F. A. Vorobev and R. I. Sokolovskii. 36(6), 625–7 (Jun. 1974); CPM-7410X0987

Filling of high-excitation states of cesium atoms —V. S. Vorobev and A. I. Gleizer. 37(4), 450 (Oct. 1974)
Investigation of the equilibrium in a doubly ionized argon plasma — N. S. Gruzdeva, L. S. Nikolaevskii, and I. V. Podmoshenskii. 37 (5), 574–6 (Nov. 1974)

43.30.- Transport, collision, and interaction processes in plasma

Collisions of the second kind in the afterglow of a discharge in a mixture of argon and nitrogen —O. P. Bochkova, N. V. Chernysheva, and Yu. A. Tolmachev. 36(1), 19–21 (Jan. 1974); CPM-7406X0379

43.30.D Transport properties

Possibility of determining the recombination and diffusion coefficients by the low impurity method —M. N. Polyanskii, N. V. Remizov, V. N. Skrebov, and A. M. Shukhtin. 36(1), 32–4 (Jan. 1974); CPM-7406X0392

43.30.J Emission, absorption, and scattering of radiation

Continuous spectrum of a pulsed discharge in helium —M. A. Mazing and V. A. Slemzin. 36(1), 24–7 (Jan. 1974); CPM-7406X0384
Temperature dependence of diffusion coefficients of excited $6^3P_{0,2}$ mercury atoms in mercury vapor —N. P. Penkin and T. P. Redko. 36(2), 132–5 (Feb. 1974); CPM-7406X0492
Broadening and shift of the 0.63-μm neon line under the action of the discharge current —Im Tkhek-de, V. P. Kochanov, S. G. Rautian, E. G. Saprykin, and A. M. Shalagin. 36(2), 152–4 (Feb. 1974); CPM-7406X0512
Possibility of determining the parameters of an optically dense inhomogeneous low-temperature plasma using the integral emission intensities of self-reversed lines —I. A. Vasileva, B. Ya. Shumyatskii, and D. N. Yundev. 36(2), 155–8 (Feb. 1974); CPM-7406X0515
Emittance and radiative cooling of xenon heated by a shock wave — G. I. Koslov and D. I. Roitenburg. 36(5), 497–500 (May 1974); CPM-7409X1425
Recombination radiation and bremsstrahlung of an oxygen plasma — N. S. Gruzdeva, L. S. Nikolaevskii, and I. V. Podmoshenskii. 36 (5), 501–2 (May 1974); CPM-7409X1429
Quantum phenomena in coherent-radiation transfer. Part 1 —F. A. Vorobev and R. I. Sokolovskii. 36(6), 625–7 (Jun. 1974); CPM-7410X0987
Measurement of the rate of decay of resonance levels —G. A. Vesnicheva and T. P. Redko. 37(1), 16–9 (Jul. 1974)
Electromagnetic radiation due to symmetric ion–atom collisions —G. F. Drukarev and A. A. Mikhailov. 37(2), 220–1 (Aug. 1974)
Continuum intensity of an air plasma at T=20,000 K —V. Yu. Vinogradov, L. S. Nikolaevskii, and I. V. Podmoshenskii. 37(2), 222 (Aug. 1974)
Negative absorption in the region of laser-emission focusing with free–free transitions —V. A. Zhuravlev and G. D. Petrov. 37(4), 441–2 (Oct. 1974)
Influence of the Penning effect on electron–ion recombination in a helium arc plasma —V. Ya. Aleksandrov, D. B. Gurevich, A. B. Mikhailov, and I. V. Podmoshenskii. 37(5), 489–91 (Nov. 1974)
Observation of a dissociative recombination of a molecular helium ion in the early afterflow of a discharge —V. S. Egorov, A. A. Pastor, V. V. Samokhvalov, and A. A. Solovev. 37(5), 563–5 (Nov. 1974)
Determination of the total radiation of inert-gas plasmas —A. A. Bakeev, R. E. Rovinskii, and A. P. Sobolev. 37(6), 668–9 (Dec. 1974)
Stimulated light echo and inelastic collisions of particles in a low-temperature plasma —L. A. Nefedev and V. V. Samartsev. 37 (6), 673–4 (Dec. 1974)

43.30.N Beam interactions in plasma

Study of collisions of the second kind between $Hg(6^3P_{0,1})$ atoms and slow electrons in an Hg+CO mixture —S. M. Kazakov, A. I. Korotkov, and N. A. Prilezhaeva. 36(6), 620–4 (Jun. 1974); CPM-7410X0982

43.50.- Plasma production and heating

Plasma production by photoionization of a gas —I. V. Dvornikov, L. V. Kulagina, I. V. Podmoshenskii, and A. V. Yakovleva. 36(1), 22–3 (Jan. 1974); CPM-7406X0382

43.60.- Plasma diagnostics

Possibility of determining the parameters of an optically dense inhomogeneous low-temperature plasma using the integral emission intensities of self-reversed lines —I. A. Vasileva, B. Ya. Shumyatskii, and D. N. Yundev. 36(2), 155–8 (Feb. 1974); CPM-7406X0515
Spectroscopic determination of electron concentration in the arc of a duoplasmatron ion source —M. A. Abroyan, Yu. M. Kagan, N. B. Kolokolov, and B. P. Lavrov. 36(4), 375–7 (Apr. 1974); CPM-7408X0157
Nature of the red shift of hydrogen lines in a dense plasma —A. V. Demura and G. V. Sholin. 36(6), 711 (Jun. 1974); CPM-7410X1073
Plasma diagnostics in the far-infrared (submillimeter) region using a Mach–Zehnder interferometer —A. N. Kolerov and G. D. Petrov. 37(3), 342 (Sep. 1974)
Spectroscopic study of nonequilibrium in highly ionized helium —N. S. Gruzdeva, L. S. Nikolaevskii, and I. V. Podmoshenskii. 37(6), 591–4 (Dec. 1974)
Variation in the contour of a resonance line as a function of plasma composition —V. I. Gladushchak, V. V. Skidan, and E. Ya. Shreider. 37(6), 598–600 (Dec. 1974)
Investigation of the continuous emission spectrum of the xenon plasma of a continuous optical discharge —G. I. Kozolov, V. A. Kuznetsov, and V. A. Masyukov. 37(6), 601–5 (Dec. 1974)
Measurment of the radial temperature distribution of an argon discharge at medium pressures by pulsed holographic interferometry —V. N. Rzhevskii. 37(6), 671–2 (Dec. 1974)

43.80.- Electric discharges

Continuous spectrum of a pulsed discharge in helium —M. A. Mazing and V. A. Slemzin. 36(1), 24–7 (Jan. 1974); CPM-7406X0384
Possibility of determining the recombination and diffusion coefficients by the low impurity method —M. N. Polyanskii, N. V. Remizov, V. N. Skrebov, and A. M. Shukhtin. 36(1), 32–4 (Jan. 1974); CPM-7406X0392

43.80.D Conductivity and discharges (low field or Townsend)

Investigation of the positive column of discharge in helium at moderate pressures. Part 1. —Yu. M. Kagan and K. Paskalev. 37 (2), 129–31 (Aug. 1974)
Amplification of some types of laser action in a hallow-cathode discharge —B. S. Mogilnitskii. 37(2), 132–5 (Aug. 1974)
Energy distribution of electrons and the emission intensities in a hollow cathode —N. N. Khristov. 37(4), 359–60 (Oct. 1974)
Spectroscopic determination of ionization equilibrium by modulation of a discharge current —V. Ya. Aleksandrov, N. S. Gruzdeva, and I. V. Podmoshenskii. 37(4), 369–71 (Oct. 1974)
Experimental investigation of a He–Ne laser with a discharge gap of rectangular cross section —V. E. Privalov and V. A. Khodovoi. 37 (4), 455–7 (Oct. 1974)

43.80.H Glow; corona

Temperature dependence of diffusion coefficients of excited $6^3P_{0,2}$ mercury atoms in mercury vapor —N. P. Penkin and T. P. Redko. 36(2), 132–5 (Feb. 1974); CPM-7406X0492
Mechanism of ozone formation in the molecular-oxygen glow discharge —L. E. Khvorostovskaya and V. A. Yankovskii. 37(1), 13–5 (Jul. 1974)
Measurement of the rate of decay of resonance levels —G. A. Vesnicheva and T. P. Redko. 37(1), 16–9 (Jul. 1974)
Drift of excited neon atoms in a discharge —V. I. Vinogradov and A. V. Eletskii. 37(5), 486–8 (Nov. 1974)
Transverse distribution of amplification in discharge gaps of concentric and sector cross sections —V. E. Privalov and S. F. Yudin. 37(5), 566–7 (Nov. 1974)
Measurment of the radial temperature distribution of an argon discharge at medium pressures by pulsed holographic interferometry —V. N. Rzhevskii. 37(6), 671–2 (Dec. 1974)

43.80.M Arcs; sparks

Spectroscopic determination of electron concentration in the arc of a duoplasmatron ion source —M. A. Abroyan, Yu. M. Kagan, N. B. Kolokolov, and B. P. Lavrov. **36**(4), 375–7 (Apr. 1974); CPM-7408X0157

Spectroscopic determination of ionization equilibrium by modulation of a discharge current —V. Ya. Aleksandrov, N. S. Gruzdeva, and I. V. Podmoshenskii. **37**(4), 369–71 (Oct. 1974)

Influence of the Penning effect on electron–ion recombination in a helium arc plasma —V. Ya. Aleksandrov, D. B. Gurevich, A. B. Mikhailov, and I. V. Podmoshenskii. **37**(5), 489–91 (Nov. 1974)

51. STRUCTURE OF LIQUIDS AND SOLIDS; CRYSTALLOGRAPHY

51.70.– Defects in crystals

Luminescence and color centers in LiF single crystals under x-ray excitation —N. N. Ershov, G. M. Zakharov, T. I. Nikitinskaya, and P. A. Rodnyi. **36**(1), 122–3 (Jan. 1974); CPM-7406X0482

Spectroscopic study of the nature of luminescence centers in a NaCl–Tl phosphor for a wide range of activator concentrations —N. I. Ivanova, K. A. Soloveva, and L. I. Tarasova. **36**(4), 416–20 (Apr. 1974); CPM-7408X0198

Participation of dipolons in the two-stage process of photochemical coloration of alkali halide crystal —G. A. Rozman. **36**(5), 594–5 (May 1974); CPM-7409X1522

Phosphorescence of naphthalene crystals with surface impurities —V. K. Kravets, V. I. Melnik, and M. T. Shpak. **37**(5), 527–8 (Nov. 1974)

Probabilities for radiative and nonradiative transitions in (V_k+e^-) centers in KI —P. A. Kask, R. A. Kink, G. G. Liidya, and T. A. Soovik. **37**(5), 537–40 (Nov. 1974)

Mechanism of the origin and kinetics of luminescence of I^{++} and $In^{++}v_c^-$ centers in a KCl–In crystal —L. E. Nagli. **37**(5), 541–3 (Nov. 1974)

Ultra violet spectra of some zinc sulfide polytypes and crystals with stacking faults —N. K. Morozova, L. V. Gamosov, and E. E. Lakin. **37**(6), 639–42 (Dec. 1974)

51.90.+ Other topics in structure of liquids and solids

Energy spectrum and annihilation characteristics of a positronium atom in ionic crystals —E. P. Prokopev. **36**(2), 209–12 (Feb. 1974); CPM-7406X0569

Dependence of optical absorption of sodium borate glass on the electron irradiation dose —V. G. Vakhromeev and S. P. Zinoveva. **36**(2), 246–7 (Feb. 1974); CPM-7406X0606

Spectroscopic study of the stabilization of the sphalerite structure in ZnS–Cu single crystals —L. G. Suslina and D. L. Fedorov. **36**(4), 408–10 (Apr. 1974); CPM-7408X0190

Spectral intensity of continuous x-radiation from a massive target —A. I. Egorov and V. P. Afonin. **37**(1), 113–4 (Jul. 1974)

Stark effect in tetracene and perylene films —L. M. Blinov and N. A. Kirichenko. **37**(5), 513–5 (Nov. 1974)

52. MECHANICAL AND ACOUSTIC PROPERTIES OF CONDENSED MATTER

Fine structure of the Rayleigh scattering line in certain alcohols —D. A. Rasulmikhamedova, L. Pulatova, L. E. Kvasova, A. G. Rasulmikhamedov, M. G. Khaliulin, and P. K. Khabibullaev. **37**(1), 116 (Jul. 1974)

53. LATTICE DYNAMICS

Determination of the symmetry of the normal vibrations and factor-group analysis of the fluoroapatite crystal —D. K. Arkhipenko, V. N. Stolpovskaya, and B. A. Orekhov. **36**(4), 411–2 (Apr. 1974); CPM-7408X0193

Theory of vibrations of three-dimensional ordered structures. Polymer crystals —L. A. Gribov. **37**(1), 35–7 (Jul. 1974)

Spectroscopic manifestation of orientational disordering in the p-bromochlorobenzene molecular crystal in the region of the lowest singlet–singlet transition —A. Ya. Korets, V. P. Fedorov, and A. I. Shtain. **37**(5), 562–3 (Nov. 1974)

54. EQUATIONS OF STATE, PHASE EQUILIBRIA, AND PHASE TRANSITIONS

Allowance for the anisotropy of the polarizability of molecules in the theory of the intensity of the vibrational spectra of liquids. 2: Breakdown of the correlation between the intensities of the Raman scattering of light in the liquid and gaseous phase —O. G. Bokov. **36**(6), 647–9 (Jun. 1974); CPM-7410X1009

Absorption of aniline in the 751–cm^{-1} region near the critical solution point of an aniline–cyclohexane mixture —A. I. Mardaeva and A. F. Bondarev. **36**(6), 713–4 (Jun. 1974); CPM-7410X1075

Influence of the effective field of a light wave on the Raman spectra of condensed media. Part 3. Raman spectra at the liquid–vapor phase transition —V. M. Sidorenko, V. S. Libov, and N. G. Bakhshiev. **37**(4), 385–8 (Oct. 1974)

56. TRANSPORT PROPERTIES OF CONDENSED MATTER (NONELECTRONIC)

Color centers in KCl–Ag crystals when silver is introduced by thermodiffusion —L. K. Berkut and M. E. Fonkich. **37**(4), 411–3 (Oct. 1974)

61. ELECTRON STATES

61.50.– Level splitting and interactions

Spectra of f–f transitions of the Eu^{2+} ion in $KMgF_3$ and $NaMgF_3$ crystals —N. S. Altshuler, L. D. Livanova, and A. L. Stolov. **36**(1), 72–5 (Jan. 1974); CPM-7406X0432

Linear stark effect in the spectra of fluoraapatite crystals activated with rare-earth ions —A. A. Kaplyanskii, V. N. Medvedev, and A. P. Skvortsov. **36**(2), 213–6 (Feb. 1974); CPM-7406X0573

Davydov splitting in the vibrational spectra of molecular crystals. 3: Variation of Davydov splitting with concentration in their spectrum of crystalline solutions of cyclohexane in cyclohexane-d_{12} —M. A. Moskaleva and G. N. Zhizhin. **36**(5), 535–6 (May 1974); CPM-7409X1463

Configuration of $3d^3$ electrons in a trigonal field. Spectra of Fe^{3+} ions in a demantoid garnet and corundum —T. F. Veremeichik, B. N. Grechushnikov, I. N. Kalinkina, and D. T. Sviridov. **36**(6), 658–61 (Jun. 1974); CPM-7410X1020

Effect of optical polarization on the intensities and frequencies of the spectrum of a calcium fluoroapatite crystal in the region of the internal vibrations of the PO_4^{3-} ion —I. I. Shaganov and V. S. Libov. **37**(1), 55–8 (Jul. 1974)

Energy levels of the Ce^{3+} ($4f^1$) ion in the calcite-type crystals MBO_3 (M=Sc, Lu) —N. V. Starostin and S. A. Titov. **37**(2), 158–9 (Aug. 1974)

61.80.– Polarons, excitons, and other excitations

Optical constants for the region of CuI exciton absorption —L. A. Ageev, V. K. Miloslavskii, and T. I. Maksimenko. **36**(1), 76–9 (Jan. 1974); CPM-7406X0436

Electroabsorption of polarized light in the region of the yellow exciton series of a Cu_2 crystal; a theory —A. G. Zhilich and B. S. Monozon. **36**(1), 80–2 (Jan. 1974); CPM-7406X0440

Parametric scattering of electromagnetic radiation by plasmons —V. A. Bushuev. **36**(2), 205–8 (Feb. 1974); CPM-7406X0565

Exiton states of some pure and mixed molecular crystals. 3: Electronic spectra of crystalline solutions of p-dichorobenzene and p-chlorobromobenzene, and of p-dibromobenzene and p-chlorobromobenzene —G. V. Klimusheva, A. T. Rudchik, and R. V. Yaremko. **36**(4), 405–7 (Apr. 1974); CPM-7408X0187

Polarized luminescence from unactivated lead chloride crystals —G. G. Liidya and Vl. G. Plekhanov. 36(5), 553–5 (May 1974); CPM-7409X1481

Birefringence in crystals with isotropic points and determination of oscillator strengths for excitons in CdS by the Rozhdestvenskii hook method —I. V. Baranets, A. Kh. Zilbershtein, and L. E. Solovev. 37(2), 164–5 (Aug. 1974)

Two–exciton radiative recombination in semicondcutors at high levels of excitation —P. I. Khadzhi and S. A. Moskalenko. 37(5), 544–6 (Nov. 1974)

Allowance for delayed interaction in the theory of the exciton optical activity of molecules —V. A. Morozov. 37(6), 627–8 (Dec. 1974)

Ultra violet spectra of some zinc sulfide polytypes and crystals with stacking faults —N. K. Morozova, L. V. Gamosov, and E. E. Lakin. 37(6), 639–42 (Dec. 1974)

7th seminar, excitons in crystals —O. Kraus. 37(6), 692 (Dec. 1974)

61.90.+ Other topics in electron states

Use of molecular–orbital method for the calculation of impurity electronic levels in ionic crystals. 2: Electronic structure of the NaCl–Mg center —A. V. Bandura and R. A. Evarestov. 37(3), 276–80 (Sep. 1974)

Band structure and optical properties of fluorite–type crystals. Part 3 —N. V. Starostin and V. A. Ganin. 37(6), 635–8 (Dec. 1974)

63. ELECTRONIC STRUCTURE AND ELECTRICAL PROPERTIES OF SURFACES, INTERFACES, AND THIN FILMS

Anomalies of optical absorption in thin metal films —V. G. Kogan and V. A. Lavrovskii. 36(5), 559–62 (May 1974); CPM-7409X1487

65. MAGNETIC PROPERTIES AND MATERIALS

Diffraction of laser radiation by a magnetic grating —A. A. Solomko and V. I. Mykityuk. 36(5), 584–6 (May 1974); CPM-7409X1512

Triplet–triplet energy transfer involving fluorinated aromatic compounds —S. S. Tibilov and V. L. Ermolaev. 36(6), 715–6 (Jun. 1974); CPM-7410X1077

Interferometric method for measuring the intensity of time–varying strong magnetic fields —A. V. Molchanov and R. I. Semenov. 37 (3), 348–9 (Sep. 1974)

Electromagnetic wave propagation in a magnetically ordered medium with a regular magnetic inhomogeneity —N. M. Salanskii and Yu. M. Fedorov. 37(6), 633–4 (Dec. 1974)

66. MAGNETIC RESONANCE AND RELAXATION IN CONDENSED MATTER; MOSSBAUER EFFECT

Line shape for a nuclear magnetic resonance of an optically oriented atomic system in a nonuniform radiofrequency field —S. L. Votyakov, S. P. Dovgopol, L. N. Novikov, and V. P. Putyrskii. 36 (6), 611–4 (Jun. 1974); CPM-7410X0973

Magnetic relaxation of optically oriented nuclei of atoms interacting with a wall —V. P. Putyrskii and T. G. Izyumova. 37(3), 227–30 (Sep. 1974)

68. OPTICAL PROPERTIES AND CONDENSED–MATTER SPECTROSCOPY

68.20.– Optical properties and materials

Absorption of electromagnetic waves by a metallic cylinder —V. M. Kuzmichev and Yu. M. Latynin. 37(3), 319–21 (Sep. 1974)

Approximation formulas in the theory of gyrotropy. Part 1 —V. I. Burkov, V. V. Ivanov, V. A. Kizel, and G. S. Semin. 37(4), 420–2 (Oct. 1974)

68.20.D Optical constants and parameters

Optical constants for the region of CuI exciton absorption —L. A. Ageev, V. K. Miloslavskii, and T. I. Maksimenko. 36(1), 76–9 (Jan. 1974); CPM-7406X0436

Vibration spectrum and optical constants of $ZnGeP_2$ single crystals — Yu. F. Markov, V. S. Grigoreva, B. S. Zadokhin, and T. V. Rybakova. 36(1), 93–5 (Jan. 1974); CPM-7406X0453

Ellipsometric method for measuring optical constants and thickness of thin absorbing films on metal substrates —I. N. Shklyarevskii, A. F. A. El Shazli, R. G. Yarovaya, and V. P. Kostyuk. 36(1), 116–8 (Jan. 1974); CPM-7406X0476

Ellipsometry of ultrathin transparent films —G. A. Egorova, N. S. Ivanova, E. V. Potapov, and A. V. Rakov. 36(4), 449–51 (Apr. 1974); CPM-7408X0231

Measurement of optical constants of materials in the 4–30 cm^{-1} region by a Michelson interferometer —F. F. Igoshin, A. P. Kiryanov, V. V. Mozhaev, M. A. Tulaikova, and A. A. Sheronov. 36(6), 669–71 (Jun. 1974); CPM-7410X1031

Dependence of the two–photon absorption coefficient on the thickness of CdS single crystals —R. A. Baltrameyunas, Yu. Yu. Vaitkus, Yu. K. Vishchakas, and V. I. Gavryushin. 36(6), 714–5 (Jun. 1974); CPM-7410X1076

Optical properties of palladium in the visible and near ir regions of the spectrum —Zh. Duisebaeva, M. I. Korsunskii, and G. P. Motulevich. 37(1), 82–3 (Jul. 1974)

Optical absorption of Ni–Fe alloys —N. Ya. Gorban and V. S. Stashchuk. 37(2), 202–3 (Aug. 1974)

Light absorption in intrinsic semiconductors in the presence of high–power laser radiation —E. P. Sinyavskii. 37(3), 281–5 (Sep. 1974)

Behavior of the refractive index of heptane in a wide temperature region along the saturation curve including the neighborhood of the critical point —L. M. Artyukhovskaya, E. T. Shimanskaya, and Yu. I. Shimanskii. 37(5), 533–6 (Nov. 1974)

Effect of thermoelastic stresses on the optical indicatrix of a uniaxial crystal —A. A. Vigasin, Yu. A. Gorokhov, D. P. Krindach, and A. P. Sukhorukov. 37(6), 654–5 (Dec. 1974)

68.20.F Birefringence (including stress birefringence, flow birefringence, etc.)

Measurement of birefringence using the interference of polarized beams in crystals at a point $\Delta n = 0$ in the transparent region —A. V. Shaldin and D. A. Belogurov. 36(3), 346 (Mar. 1974); CPM-7407X1032

Method for measuring induced birefringence on anisotropic crystals in quasimonochromatic light —D. A. Belogurov and Yu. V. Shaldin. 36(5), 545–6 (May 1974); CPM-7409X1473

Birefringence in crystals with isotropic points and determination of oscillator strengths for excitons in CdS by the Rozhdestvenskii hook method —I. V. Baranets, A. Kh. Zilbershtein, and L. E. Solovev. 37(2), 164–5 (Aug. 1974)

Effect of thermoelastic stresses on the optical indicatrix of a uniaxial crystal —A. A. Vigasin, Yu. A. Gorokhov, D. P. Krindach, and A. P. Sukhorukov. 37(6), 654–5 (Dec. 1974)

68.20.H Piezo–, elasto–, and acousto–optical effects

Observation of absorption in liquids by polarized light —A. M. Bonch–Bruevich, T. K. Razumova, and I. O. Starobogatov. 36(4), 403–4 (Apr. 1974); CPM-7408X0185

Some problems of the theory of acoustics modulating and deflecting devices —V. N. Mozhaiskii and A. S. Sonin. 37(2), 192–5 (Aug. 1974)

Stimulated Mandelshtam–Brillouin scattering in paramagnetic crystals under conditions of acoustic paramagnetic resonance (backward scattering) —R. G. Deminov. 37(4), 418–9 (Oct. 1974)

Investigation of the acoustooptical properties of glasses of the As–S–I–Sb system —I. I. Adrianova, L. N. Asnis, V. V. Melnikov, and A. V. Petrova. 37(4), 444–5 (Oct. 1974)

68.20.J Electro–optical effects

Electrooptical effect in lead magnesium biobate crystals of pyrochlore structure —I. I. Adrianova, A. A. Berezhnoi, E. V. Nefedova, V. A. Pismennyi, Yu. V. Popov, and K. P. Skornyakova. 36(5), 547–8 (May 1974); CPM-7409X1475

Allowance for the anisotropy of the polarizability of molecules in the theory of the intensity of the vibrational spectra of liquids. 3: Allowance for intermolecular interaction in the solution of the inverse electro-optical problem in carbon tetrachloride —N. V. Bogachev. 36(6), 645–6 (Jun. 1974); CPM-7410X1007

Calculation and interpretation of the infrared spectra of ortho-and meta-dicarboclosododecaboranes —T. P. Klimova, L. A. Gribov, and V. I. Stanko. 36(6), 650–3 (Jun. 1974); CPM-7410X1012

Allowance for intermolecular interaction in the solution of the direct electron-optical porblem for the chloroform molecule —N. V. Bogachev. 37(2), 209–10 (Aug. 1974)

68.20.L Magneto-optical effects and properties

Optical activity and optical and magnetooptical studies of NaCl crystals containing colloid centers —V. V. Golubstov, A. E. Glauberman, and A. B. Goldenberg. 36(1), 96–8 (Jan. 1974); CPM-7406X0456

The faraday effect in strong magnetic fields —V. V. Druzhinin and O. M. Tatsenko. 36(4), 426–8 (Apr. 1974); CPM-7408X0208

Line shape for a nuclear magnetic resonance of an optically oriented atomic system in a nonuniform radiofrequency field —S. L. Votyakov, S. P. Dovgopol, L. N. Novikov, and V. P. Putyrskii. 36 (6), 611–4 (Jun. 1974); CPM-7410X0973

Configuration of $3d^3$ electrons in a trigonal field. Spectra of Fe^{3+} ions in a demantoid garnet and corundum —T. F. Veremeichik, B. N. Grechushnikov, I. N. Kalinkina, and D. T. Sviridov. 36(6), 658–61 (Jun. 1974); CPM-7410X1020

Resonance interaction of unidirectional waves in a gas in a magnetic field —E. V. Baklanov. 36(6), 687–9 (Jun. 1974); CPM-7410X1049

Modulation of the quantum yield of the fluorescence of excited complexes by a weak magnetic field —E. L. Frankevich, B. M. Rumyantsev, and V. I. Lesin. 37(2), 215–6 (Aug. 1974)

Stimulated Mandelshtam–Brillouin scattering in paramagnetic crystals under conditions of acoustic paramagnetic resonance (backward scattering) —R. G. Deminov. 37(4), 418–9 (Oct. 1974)

Transmission and reflection of light by a magnetooptically active plane-parallel inclined plate. Mueller matrix —V. D. Tronko and G. P. Golovach. 37(5), 547–9 (Nov. 1974)

Electromagnetic wave propagation in a magnetically ordered medium with a regular magnetic inhomogeneity —N. M. Salanskii and Yu. M. Fedorov. 37(6), 633–4 (Dec. 1974)

68.30.– Infrared and Raman spectra and scattering

Theory of Rayleigh and Raman scattering in molecular in molecular crystals —E. N. Ivanov. 37(4), 381–4 (Oct. 1974)

68.30.C Infrared and Raman spectra in liquids

Effect of intermolecular interactions on the vibrational spectra of molecules. 13: Intensities and frequencies of the ir band of the antisymmetric stretching vibration of CS_2 —S. Kh. Akopyan, O. P. Girin, and N. G. Bakhshiev. 36(2), 185–8 (Feb. 1974); CPM-7406X0545

Temperature and concentration dependence of the Raman spectra of liquids —N. V. Bogachev and O. G. Bokov. 36(5), 516–8 (May 1974); CPM-7409X1444

Allowance for the anisotropy of the polarizability of molecules in the theory of the intensity of the vibrational spectra of liquids. I. Intensity of Raman scattering in liquids —O. G. Bokov. 36(5), 519–21 (May 1974); CPM-7409X1447

Effect of hydrogen bond and internal field on the Raman line intensity in the CD_3OH–CCl_4 system —N. L. Lavrik and Yu. I. Naberukhin. 37(1), 44–7 (Jul. 1974)

Concentration dependence of Raman finewidth in high-viscosity solutions —N. K. Sidorov, L. S. Stalmakhova, and G. L. Novikova. 37(1), 48–9 (Jul. 1974)

Rayleigh line shape and width of aniline, quinoline, and other liquids as function of temperature —F. Kh. Tukhvatullin, F. Ganiev, A. K. Atakhodzhaev, and I. P. Kleiner. 37(2), 144–5 (Aug. 1974)

Spectrum of Raman scattering of hydrogen in some liquid solutions — N. D. Orlova, L. A. Pozdnyakova, and E. B. Khodos. 37(3), 340–1 (Sep. 1974)

Influence of the effective field of a light wave on the Raman spectra of condensed media. Part 3. Raman spectra at the liquid–vapor phase transition —V. M. Sidorenko, V. S. Libov, and N. G. Bakhshiev. 37(4), 385–8 (Oct. 1974)

Vibrational and rotational relaxation of molecules in several liquids on the basis of Raman spectra —A. E. Boldeskul, S. S. Esman, and V. E. Pogorelov. 37(5), 521–4 (Nov. 1974)

Influence of the effective field of a light-wave on the Raman spectra of condensed media. 4: Fermi resonance in the spontaneous Raman spectra of carbon tetrachloride —V. M. Sidorenko, V. S. Libov, and N. G. Bakhshiev. 37(6), 621–3 (Dec. 1974)

68.30.E Infrared and Raman spectra in metals

Optical absorption of Ni–Fe alloys —N. Ya. Gorban and V. S. Stashchuk. 37(2), 202–3 (Aug. 1974)

68.30.G Infrared and Raman spectra in inorganic crystals

Raman scattering in crystalline chlorine and bromine —I. V. Aleksandrov, Ya. S. Bobovich, A. V. Bortkevich, and M. Ya. Tsenter. 36(1), 86–9 (Jan. 1974); CPM-7406X0446

Vibration spectrum and optical constants of $ZnGeP_2$ single crystals — Yu. F. Markov, V. S. Grigoreva, B. S. Zadokhin, and T. V. Rybakova. 36(1), 93–5 (Jan. 1974); CPM-7406X0453

Vibrational spectra of rhombically distorted preovskites —A. S. Knyazev, V. P. Zakharov, and Yu. M. Poplavko. 36(5), 556–8 (May 1974); CPM-7409X1484

First- and second-order Raman spectra of Hg_2Cl_2, Hg_2Br_2, and Hg_2I_2 single crystals —Ch. Barta, A. A. Kaplyanskii, V. V. Kulakov, and Yu. F. Markov. 37(1), 50–1 (Jul. 1974)

Davydov splitting in the vibrational spectra of molecular crystals. 4. Mixed crystals of naphthalene and naphthalene-d_8 —G. N. Zhizhin and M. A. Moskaleva. 37(1), 52–4 (Jul. 1974)

Effect of optical polarization on the intensities and frequencies of the spectrum of a calcium fluoroapatite crystal in the region of the internal vibrations of the PO_4^{3-} ion —I. I. Shaganov and V. S. Libov. 37(1), 55–8 (Jul. 1974)

Temperature dependence of the line widths in the Raman spectra of crystalline sodium thiocyanate —V. Khorlbekk, Yu. K. Delimarskii, and S. A. Kirillov. 37(4), 458–9 (Oct. 1974)

68.30.J Infrared and Raman spectra in organic crystals

The manifestation of structural defects in the infrared spectrum of crystalline naphthalene —G. A. Ginet and A. V. Sechkarev. 36(3), 304–6 (Mar. 1974); CPM-7407X0990

Davydov splitting in the vibrational spectra of molecular crystals. 3: Variation of Davydov splitting with concentration in their spectrum of crystalline solutions of cyclohexane in cyclohexane-d_{12} —M. A. Moskaleva and G. N. Zhizhin. 36(5), 535–6 (May 1974); CPM-7409X1463

Low-frequency Raman spectra of crystalline n-paraffins —Kh. E. Sterin and B. N. Mavrin. 37(2), 153–4 (Aug. 1974)

Infrared spectra and orientation of molecules in an alpha-CuPC sublimated layer —K. Z. Ogorodnik. 37(3), 339–40 (Sep. 1974)

68.30.L Brillouin and Rayleigh scattering

Molecular scattering of light in liquid dioxane —Sh. O. Otazhonov, A. A. Aivazova, and B. M. Nosenko. 36(2), 217–8 (Feb. 1974); CPM-7406X0577

Resolution and luminosity of a spectrometer with a Fabry–Perot interferometer for analyzing Mandelshtam–Brillouin spectra —V. M. Rysakov. 36(6), 699–701 (Jun. 1974); CPM-7410X1061

Rayleigh line shape and width of aniline, quinoline, and other liquids as function of temperature —F. Kh. Tukhvatullin, F. Ganiev, A. K. Atakhodzhaev, and I. P. Kleiner. 37(2), 144–5 (Aug. 1974)

68.40.– Visible and ultraviolet spectra

Nature of the shift in the absorption and fluorescence spectra of some rhodamines on variation of their concentration in solution and of the acidity of the solvent —M. I. Snegov, I. I. Reznikova, and A. S. Cherkasov. 36(1), 55–7 (Jan. 1974); CPM-7406X0415

Electroabsorption of polarized light in the region of the yellow exciton series of a Cu_2 crystal; a theory —A. G. Zhilich and B. S. Monozon. 36(1), 80–2 (Jan. 1974); CPM-7406X0440

Absorption and luminescence excitation spectra of KI–Ag, K_2AgI_3, and AgI —I. V. Nedzvetskaya. **36**(1), 83–5 (Jan. 1974); CPM-7406X0443

Absorption in thin layers of thallium chloride —I. S. Bobkova and N. I. Ivanova. **36**(1), 90–2 (Jan. 1974); CPM-7406X0450

Absorption and luminescence spectra of the 4152-Å system in diamond crystals using the modulation technique —D. S. Nedzvetskii and V. A. Gaisin. **36**(1), 123–5 (Jan. 1974); CPM-7406X0483

Linear stark effect in the spectra of fluorapatite crystals activated with rare-earth ions —A. A. Kaplyanskii, V. N. Medvedev, and A. P. Skvortsov. **36**(2), 213–6 (Feb. 1974); CPM-7406X0573

Quantitative study of the vibronic structure of the absorption spectrum of a naphthalene crystal —I. P. Terenetskaya. **36**(3), 300–3 (Mar. 1974); CPM-7407X0986

Exiton states of some pure and mixed molecular crystals. 3: Electronic spectra of crystalline solutions of p-dichorobenzene and p-chlorobromobenzene, and of p-dibromobenzene and p-chlorobromobenzene —G. V. Klimusheva, A. T. Rudchik, and R. V. Yaremko. **36**(4), 405–7 (Apr. 1974); CPM-7408X0187

Fourth all-union conference on spectroscopy of activated crystals —A. I. Ryskin and P. P. Feofilov. **37**(6), 690–1 (Dec. 1974)

68.40.D Liquids

Observation of absorption in liquids by polarized light —A. M. Bonch-Bruevich, T. K. Razumova, and I. O. Starobogatov. **36**(4), 403–4 (Apr. 1974); CPM-7408X0185

Relation between the observed and true absorption spectra of molecules in a condensed medium. 9: Effects of solvents on the intensity and shape of the electronic bands of dyes —V. M. Korovina and N. G. Bakhshiev. **36**(5), 510–1 (May 1974); CPM-7409X1438

68.40.F Ionic crystals

Spectra of f–f transitions of the Eu^{2+} ion in $KMgF_3$ and $NaMgF_3$ crystals —N. S. Altshuler, L. D. Livanova, and A. L. Stolov. **36**(1), 72–5 (Jan. 1974); CPM-7406X0432

Optical activity and optical and magnetooptical studies of NaCl crystals containing colloid centers —V. V. Golubstov, A. E. Glauberman, and A. B. Goldenberg. **36**(1), 96–8 (Jan. 1974); CPM-7406X0456

Dependence of optical absorption of sodium borate glass on the electron irradiation dose —V. G. Vakhromeev and S. P. Zinoveva. **36**(2), 246–7 (Feb. 1974); CPM-7406X0606

Electron color centers in CsBr —G. E. Gladyshev, V. P. Avdonin, and B. T. Plachenov. **37**(2), 206–7 (Aug. 1974)

68.40.H Semiconductors

Optical constants for the region of CuI exciton absorption —L. A. Ageev, V. K. Miloslavskii, and T. I. Maksimenko. **36**(1), 76–9 (Jan. 1974); CPM-7406X0436

Spectroscopic study of the stabilization of the sphalerite structure in ZnS–Cu single crystals —L. G. Suslina and D. L. Fedorov. **36**(4), 408–10 (Apr. 1974); CPM-7408X0190

68.40.K Metals, semimetals, and alloys

Anomalies of optical absorption in thin metal films —V. G. Kogan and V. A. Lavrovskii. **36**(5), 559–62 (May 1974); CPM-7409X1487

68.45.+ Stimulated emission

Production of population inversion in np^3 configurations —P. A. Bokhan and G. S. Kiyashkina. **36**(6), 615–7 (Jun. 1974); CPM-7410X0977

Effect of colling on the characteristics of pulsed neon superradiance —N. G. Turkin and V. P. Yakunin. **36**(6), 628–9 (Jun. 1974); CPM-7410X0990

Amplification of some types of laser action in a hallow-cathode discharge —B. S. Mogilnitskii. **37**(2), 132–5 (Aug. 1974)

68.50.– Impurity and defect absorption in solids

Temperature shift and broadening of Nd^{3+} ion levels in $CaWO_4$, $CaMoO_4$, and $PbMoO_4$ crystals —V. I. Bonchkovskii, B. I. Minkov, S. A. Sazonova, and B. S. Skorobogatov. **36**(5), 608–9 (May 1974); CPM-7409X1536

Color centers in KCl–Ag crystals when silver is introduced by thermodiffusion —L. K. Berkut and M. E. Fonkich. **37**(4), 411–3 (Oct. 1974)

Phosphorescence of naphthalene crystals with surface impurities —V. K. Kravets, V. I. Melnik, and M. T. Shpak. **37**(5), 527–8 (Nov. 1974)

Band structure and optical properties of fluorite-type crystals. Part 3 —N. V. Starostin and V. A. Ganin. **37**(6), 635–8 (Dec. 1974)

68.60.– Luminescence spectra and radiative recombination

Luminescence kinetics of solid solutions with energy transfer. I. Energy transfer by dipole–dipole interaction —M. M. Rikenglaz and I. M. Rozman. **36**(1), 58–60 (Jan. 1974); CPM-7406X0418

Luminescence kinetics of solid solutions when energy transfer occurs 2: Transfer by exchange interaction —M. M. Rikenglaz and I. M. Rozman. **36**(1), 61–4 (Jan. 1974); CPM-7406X0421

Scintillation mechanism in NaI–Tl —I. R. Gulakov and A. N. Pertsev. **36**(1), 67–9 (Jan. 1974); CPM-7406X0427

Luminescence spectrum kinetics of polar solutions —Yu. T. Mazurenko. **36**(3), 283–6 (Mar. 1974); CPM-7407X0969

Quenching of luminescence when migration of excitation in solid solutions is present —L. D. Zusman. **36**(3), 287–9 (Mar. 1974); CPM-7407X0973

Concentration quenching of luminescence in alcohol solutions of rhodamine dyes —L. V. Levshin, E. Yu. Bekhli, T. D. Slavnova, and V. I. Yuzhakov. **36**(3), 290–3 (Mar. 1974); CPM-7407X0976

Luminescence of solid aromatic substances in active nitrogen —V. D. Shatrov, O. F. Pugachev, and E. B. Gordon. **36**(4), 413–5 (Apr. 1974); CPM-7408X0195

Mechanism of energy transfer from ketones to rare earth ions. 4: effect of solvent and temperature. Intramolecular and diffusion transfer —E. B. Sveshnikova, V. F. Morina, and V. L. Ermolaev. **36**(4), 421–5 (Apr. 1974); CPM-7408X0203

Nonradiative energy transfer in phosphate glasses activated with rare earth ions —S. L. Kraevskii, Yu. P. Rudnitskii, and E. I. Sverchkov. **36**(6), 662–5 (Jun. 1974); CPM-7410X1024

Luminescence of ammonium halide crystals activated with indium —B. K. Kusainova. **36**(6), 706–7 (Jun. 1974); CPM-7410X1068

Effect of polymorphism of N-paraffin crystals on the luminescence of additive coronene molecules —D. M. Grebenshchikov, N. A. Kovizhnykh, and S. A. Kozlov. **37**(2), 155–7 (Aug. 1974)

Phosphorescence of naphthalene crystals with surface impurities —V. K. Kravets, V. I. Melnik, and M. T. Shpak. **37**(5), 527–8 (Nov. 1974)

Spectral luminescence study of solutions of active Nd^{3+} centers in $POCl_3+SnCl_4$ —T. K. Andreeva, M. E. Zhabotinskii, L. V. Levkin, and V. I. Ralchenko. **37**(5), 529–32 (Nov. 1974)

Probabilities for radiative and nonradiative transitions in (V_k+e^-) centers in KI —P. A. Kask, R. A. Kink, G. G. Liidya, and T. A. Soovik. **37**(5), 537–40 (Nov. 1974)

Mechanism of the origin and kinetics of luminescence of I^{++} and $In^{++}v_c^-$ centers in a KCl–In crystal —L. E. Nagli. **37**(5), 541–3 (Nov. 1974)

Computation of thin-layer coatings with specified optical properties —I. M. Minkov and V. V. Veremei. **37**(5), 571–3 (Nov. 1974)

Radioluminescence of solid solutions of naphthalene-d_8 in methylcyclohexane and butyl chloride under x-ray irradiation —I. A. Lisovskaya and M. V. Alfimov. **37**(6), 624–6 (Dec. 1974)

68.60.D Photoluminescence

Nature of the shift in the absorption and fluorescence spectra of some rhodamines on variation of their concentration in solution and of the acidity of the solvent —M. I. Snegov, I. I. Reznikova, and A. S. Cherkasov. **36**(1), 55–7 (Jan. 1974); CPM-7406X0415

Absorption and luminescence excitation spectra of KI–Ag, K_2AgI_3, and AgI —I. V. Nedzvetskaya. **36**(1), 83–5 (Jan. 1974); CPM-7406X0443

Luminescence and color centers in LiF single crystals under x-ray excitation —N. N. Ershov, G. M. Zakharov, T. I. Nikitinskaya, and P. A. Rodnyi. 36(1), 122–3 (Jan. 1974); CPM-7406X0482
Absorption and luminescence spectra of the 4152-Å system in diamond crystals using the modulation technique —D. S. Nedzvetskii and V. A. Gaisin. 36(1), 123–5 (Jan. 1974); CPM-7406X0483
Role of the anharmonicity of H_2O intramolecular vibrations in nonradiative deactivation of the excited states of rare earth ions — E. N. Bodunov and E. B. Sveshnikova. 36(2), 196–9 (Feb. 1974); CPM-7406X0556
Transfer of electronic excitation energy in a liquid solution. 4: Transfer due to exchange interaction —L. V. Mikava and I. M. Rozman. 36(2), 200–2 (Feb. 1974); CPM-7406X0560
Luminescence kinetics of rigid solutions with energy transfer. 4: The law of luminescence decay of the acceptor for the transfer due to dipole–dipole interaction —M. S. Mikhelashvili, I. M. Rozman, and T. S. Tsulaya. 36(2), 203–4 (Feb. 1974); CPM-7406X0563
Luminescence kinetics of the dissociated forms of europium benzoylacetonate. Part 2 —R. A. Puko, V. S. Khomenko, V. V. Kuznetsova, N. N. Mitkina, and T. I. Razvina. 36(3), 294–7 (Mar. 1974); CPM-7407X0980
Nature of the quasi-line absorption and fluorescence centers in frozen n-paraffin solutions of aromatic compounds. 2: Spatial separation of the types of center —L. A. Mishina and L. A. Nakhimovskaya. 36(3), 298–9 (Mar. 1974); CPM-7407X0984
Spectroscopic study of the nature of luminescence centers in a NaCl–Tl phosphor for a wide range of activator concentrations — N. I. Ivanova, A. A. Soloveva, and L. I. Tarasova. 36(4), 416–20 (Apr. 1974); CPM-7408X0198
Deactivation of triplet states and delayed fluorescence of cyanine dyes in sensitized photoexcitation —A. K. Chibisov, V. S. Kuzmin, and Yu. I. Lifanov. 36(5), 537–40 (May 1974); CPM-7409X1465
Investigation of luminescence centers in natural diamonds —M. V. Lukyanovich, I. V. Yaek, and A. S. Kuznetsov. 36(5), 549–52 (May 1974); CPM-7409X1477
Polarized luminescence from unactivated lead chloride crystals —G. G. Liidya and Vl. G. Plekhanov. 36(5), 553–5 (May 1974); CPM-7409X1481
Angular dependence of secondary luminescence specrra of a gas system —L. M. Khayutin. 36(6), 635–8 (Jun. 1974); CPM-7410X0997
Luminescence of phenanthrene single crystal at low temperatures —A. S. Krochuk and E. V. Smishko. 37(1), 59–60 (Jul. 1974)
Radioluminescence of leucosapphire and ruby under electron excitation —T. S. Bessonova, M. P. Stanislavskii, V. I. Tumanov, and V. Ya. Khaimov-Malkov. 37(2), 160–3 (Aug. 1974)
Peculiarities of the kinetics of uranyl-compound luminescence at low temperature —A. P. Abramov and N. A. Tolstoi. 37(2), 203–5 (Aug. 1974)
Electron color centers in CsBr —G. E. Gladyshev, V. P. Avdonin, and B. T. Plachenov. 37(2), 206–7 (Aug. 1974)
Modulation of the quantum yield of the fluorescence of excited complexes by a weak magnetic field —E. L. Frankevich, B. M. Rumyantsev, and V. I. Lesin. 37(2), 215–6 (Aug. 1974)
The effect of divalent, non-activating cations on the luminescence characteristics of NaCl–Sn phosphor —K. Kynev and V. Tabakova. 37(3), 288–91 (Sep. 1974)
Cooperative luminescence in glasses activated with Yb^{3+} —A. V. Dmitryuk, G. O. Karapetyan, V. I. Kosyakov, B. M. Makushkin, and V. A. Shirokshin. 37(3), 335–6 (Sep. 1974)
Temperature dependence of the non-equilibrium luminescence of pairs of second neighbors of chromium ions in ruby —A. A. Vydrik, L. P. Nikitin, A. Ya. Ryskin, and Z. M. Khashkhozhev. 37(3), 347–8 (Sep. 1974)
Influence of the transfer of electronic energy on the luminescence of styrene monomer containing a trace of polystyrene —Yu. N. Demikhov, A. N. Faidysh, and V. N. Yashchuk. 37(4), 389–91 (Oct. 1974)
Spectroscopy of Sm^{3+} in lanthanide and yttrium oxysulfides —T. V. Babkina, M. I. Gaiduk, L. N. Zorina, and N. P. Soshchin. 37(4), 401–3 (Oct. 1974)
Polarized luminescence of Sn^{2+} centers of cubic symmetry in alkali halide crystals —S. G. Zazubovich. 37(4), 404–6 (Oct. 1974)
Two types of luminescence centers in CsI–Tl —V. B. Gutan, L. M. Shamovskii, A. A. Dunina, and B. S. Gorobets. 37(4), 407–10 (Oct. 1974)
Effect of divalent nonactivating cations on the luminescence characteristics of of KBr–Sn and NaBr–Sn phosphors —K. Kynev and V. Tabakova. 37(4), 414–7 (Oct. 1974)
Two-exciton radiative recombination in semicondcutors at high levels of excitation —P. I. Khadzhi and S. A. Moskalenko. 37(5), 544–6 (Nov. 1974)
Effect of complex formation on nonradiative energy transfer between ions in liquid solutions —V. P. Gruzdev and V. L. Ermolaev. 37 (6), 629–32 (Dec. 1974)

68.60.F Electroluminescence

Radiation of electrons moving toward a silver surface at grazing angles. Radiation on surface irregularities —F. R. Arutyunyan, A. Kh. Mkhitaryan, R. A. Oganesyan, and B. O. Rostomyan. 36(6), 672–4 (Jun. 1974); CPM-7410X1034
Effect of sorption of water vapor and of vapors of certain organic substances on the electroluminescence spectrum of aluminum–oxide films —A. P. Fedchuk and V. V. Mikho. 36(6), 705 (Jun. 1974); CPM-7410X1067
Franz–Keldysh effect in the emission of electroluminescent films —N. A. Vlasenko, Yu. V. Kopytko, and V. S. Khomchenko. 37(4), 442–3 (Oct. 1974)

68.60.H Cathodoluminescence

Two types of luminescence centers in CsI–Tl —V. B. Gutan, L. M. Shamovskii, A. A. Dunina, and B. S. Gorobets. 37(4), 407–10 (Oct. 1974)
Ultra violet spectra of some zinc sulfide polytypes and crystals with stacking faults —N. K. Morozova, L. V. Gamosov, and E. E. Lakin. 37(6), 639–42 (Dec. 1974)

68.60.K Thermoluminescence

Thermoluminescence of $Y_3 Al_5 O_{12}$–RE crystals —S. Kh. Batygov, Y. K. Voronko, B. I. Denker, and V. S. Radyukhin. 36(1), 70–1 (Jan. 1974); CPM-7406X0430
Induced absorption and thermoluminescence of leucosapphire and ruby after electron irradiation —T. S. Bessonova, M. P. Stanislavskii, V. I. Tumanov, and V. Ya. Khaimov-Malkov. 37(4), 398–400 (Oct. 1974)
Adsorption nature of associative luminescence centers in aluminum oxide —A. P. Fedchuk and V. V. Mikho. 37(5), 569–70 (Nov. 1974)
Resolving power of thermoluminescence, thermodepolarization, and thermostimulated conduction curves —G. A. Bordovskii. 37(6), 680–2 (Dec. 1974)

68.70.– Other spectra and interactions between radiation and matter

Spectral intensity of continuous x-radiation from a massive target — A. I. Egorov and V. P. Afonin. 37(1), 113–4 (Jul. 1974)
Spectra of frustrated multiple internal reflection of powders and fibers —V. M. Zolotarev. 37(3), 295–7 (Sep. 1974)

68.80.+ Optical properties of thin films

Absorption in thin layers of thallium chloride —I. S. Bobkova and N. I. Ivanova. 36(1), 90–2 (Jan. 1974); CPM-7406X0450
Ellipsometric method for measuring optical constants and thickness of thin absorbing films on metal substrates —I. N. Shklyarevskii, A. F. A. El Shazli, R. G. Yarovaya, and V. P. Kostyuk. 36(1), 116–8 (Jan. 1974); CPM-7406X0476
Synthesis of multilayer optical coatings —Sh. A. Furman and E. G. Stolov. 36(3), 340–2 (Mar. 1974); CPM-7407X1026
Ellipsometry of ultrathin transparent films —G. A. Egorova, N. S. Ivanova, E. V. Potapov, and A. V. Rakov. 36(4), 449–51 (Apr. 1974); CPM-7408X0231
Optical properties of thin garanular films of tellurium —I. N. Shklyarevskii, A. I. Usoskin, V. P. Lebedev, and E. N. Alekseev. 36(4), 457–60 (Apr. 1974); CPM-7408X0239
Anomalies of optical absorption in thin metal films —V. G. Kogan and V. A. Lavrovskii. 36(5), 559–62 (May 1974); CPM-7409X1487
Approximate equations for ultrathin two-layer coatings —A. I. Usoskin and I. N. Shklyarevskii. 36(5), 603–4 (May 1974); CPM-7409X1531

Nature of light absorption by bismuth and tellurium island films —A. I. Usoskin and I. N. Shklyarevskii. **36**(6), 675–7 (Jun. 1974); CPM-7410X1037

Measurements of the index of refraction of low-absorbing thin films by the Abeles method —G. A. Bugnin. **37**(1), 111–2 (Jul. 1974)

Substructure and anomalous optical properties of islet condensates of silver —B. T. Boiko, V. V. Efimovskii, and V. I. Shkaleto. **37**(1), 112 (Jul. 1974)

Ellipsometry of inhomogeneous surface films —L. L. Vasileva, K. K. Svitashev, A. I. Semenenko, L. V. Semenenko, and V. K. Sokolov. **37**(3), 325–8 (Sep. 1974)

Optical properties of films of metaselenoarsenites of alkali metals —A. V. Lada, V. A. Zuban, A. N. Borets, and M. I. Golovei. **37**(3), 329–31 (Sep. 1974)

Low-reflection thin-layer coatings for oblique incidence of light —I. M. Minkov. **37**(3), 332–5 (Sep. 1974)

Effect of low absorption on the spectral characteristics of multilayer systems —A. V. Tikhonravov and A. Yu. Klementeva. **37**(4), 437–9 (Oct. 1974)

Silver layers cleared by dielectric coatings —L. B. Panfilova and Yu. F. Skachkov. **37**(4), 440–1 (Oct. 1974)

Franz–Keldysh effect in the emission of electroluminescent films —N. A. Vlasenko, Yu. V. Kopytko, and V. S. Khomchenko. **37**(4), 442–3 (Oct. 1974)

Stark effect in tetracene and perylene films —L. M. Blinov and N. A. Kirichenko. **37**(5), 513–5 (Nov. 1974)

68.90.+ Other topics in optical properties of condensed matter

A problem in the theory of radiation by extended charges —A. B. Kukanov and A. V. Konstantinovich. **36**(6), 709 (Jun. 1974); CPM-7410X1071

Effect of solvent on the nonlinear properties of solutions of organic dyes —E. B. Aslanidi, A. I. Kurasbediani, B. S. Lezhava, and V. V. Mumladze. **37**(3), 273–5 (Sep. 1974)

Induced absorption and thermoluminescence of leucosapphire and ruby after electron irradiation —T. S. Bessonova, M. P. Stanislavskii, V. I. Tumanov, and V. Ya. Khaimov-Malkov. **37**(4), 398–400 (Oct. 1974)

69. ELECTRON AND ION EMISSION BY LIQUIDS AND SOLIDS; IMPACT PHENOMENA

Investigation of the spectral dependence of the yield of slow photoelectrons from platinum and silver surfaces in the vacuum ultraviolet —G. V. Karachevtsev, V. K. Potapov, and V. V. Sorokin. **36**(5), 563–5 (May 1974); CPM-7409X1491

Radiation of electrons moving toward a silver surface at grazing angles. Radiation on surface irregularities —F. R. Arutyunyan, A. Kh. Mkhitaryan, R. A. Oganesyan, and B. O. Rostomyan. **36**(6), 672–4 (Jun. 1974); CPM-7410X1034

71. OPTICS

71.10.– Propagation and transmission in homogeneous and isotropic media

Velocity of light in a dielectric in a magnetic field —Z. K. Yankauskas. **36**(3), 356–7 (Mar. 1974); CPM-7407X1042

Angular divergence of the field and minimum light spots in a ring cavity with a Gaussian diaphragm —V. F. Boitsov and T. A. Murina. **37**(1), 84–6 (Jul. 1974)

Mueller matrices for a system of identical plane-parallel layers. 2 —V. D. Tronko and G. P. Golovach. **37**(3), 292–4 (Sep. 1974)

71.10.D Wave front and ray tracing

Estimate of the influence of loval distortions of a wavefront on optical image quality —V. A. Zverev, S. A. Rodionov, and M. N. Sokolskii. **36**(4), 461–3 (Apr. 1974); CPM-7408X0243

Calculation of directions of phase matching in collinear and vector interaction of waves in different crystals —V. D. Volosov and A. G. Kalintsev. **37**(4), 426–7 (Oct. 1974)

71.10.F Edge and boundary effects

Diffraction on the entrance face plane of an optic fiber —L. M. Kuchikyan. **36**(3), 346–7 (Mar. 1974); CPM-7407X1032

Diffraction of laser radiation by a magnetic grating —A. A. Solomko and V. I. Mykityuk. **36**(5), 584–6 (May 1974); CPM-7409X1512

Synthesis of multilayer optical coatings for the case when the specified spectral characteristic has discontinuities —E. G. Stolov and Sh. A. Furman. **36**(6), 702–4 (Jun. 1974); CPM-7410X1064

Some optical schemes for the diagnosis of axially symmetric absorbing media bounded by transparent refracting walls —S. I. Krylova, L. A. Luizova, and A. D. Khakhaev. **37**(3), 316–8 (Sep. 1974)

71.10.H Scattering and reflection from extended bodies

Covariant description of light interaction with nonabsorbing crystalline plates —L. M. Barkovskii and F. I. Fedorov. **36**(6), 666–8 (Jun. 1974); CPM-7410X1028

Synthesis of multilayer optical coatings for the case when the specified spectral characteristic has discontinuities —E. G. Stolov and Sh. A. Furman. **36**(6), 702–4 (Jun. 1974); CPM-7410X1064

Scattering matrix for light scattered by a small particle of arbitrary shape —A. G. Ramm. **37**(1), 68–70 (Jul. 1974)

Scattering of optical radiation by a system of closely spaced scatters —E. A. Vedernikova and M. V. Kabanov. **37**(1), 71–4 (Jul. 1974)

Mueller matrices for a system of identical plane–parallel layers. Part 1 —V. D. Tronko and G. P. Golovach. **37**(2), 174–6 (Aug. 1974)

Transmission and reflection of light by stratified plane–parallel anisotropic media —I. M. Minkov. **37**(2), 177–80 (Aug. 1974)

Calculation of some parameters of a light field in the gap of a simulator —V. E. Palamaryuk, S. G. Guminetskii, and Ya. P. Marchuk. **37**(3), 312–5 (Sep. 1974)

Light scattering by a polydisperse system of large spherical particles —E. P. Zimin and A. M. Krugerskii. **37**(3), 337–9 (Sep. 1974)

Method of refractive-index measurement for transparent substances — V. A. Odarich. **37**(4), 431–3 (Oct. 1974)

Effect of low absorption on the spectral characteristics of multilayer systems —A. V. Tikhonravov and A. Yu. Klementeva. **37**(4), 437–9 (Oct. 1974)

Scattering of radiation by metal black —M. Yu. Sakhnovskii and M. G. Kunetskii. **37**(6), 651–3 (Dec. 1974)

71.10.K Absorption

Nature of light absorption by bismuth and tellurium island films —A. I. Usoskin and I. N. Shklyarevskii. **36**(6), 675–7 (Jun. 1974); CPM-7410X1037

Resonance interaction of unidirectional waves in a gas in a magnetic field —E. V. Baklanov. **36**(6), 687–9 (Jun. 1974); CPM-7410X1049

Phenomenological theory of absorbing optically active media —B. V. Bokut, A. N. Serdyukov, and V. V. Shepelevich. **37**(1), 65–7 (Jul. 1974)

Mueller matrices for a system of identical plane–parallel layers. Part 1 —V. D. Tronko and G. P. Golovach. **37**(2), 174–6 (Aug. 1974)

Transmission and reflection of light by stratified plane–parallel anisotropic media —I. M. Minkov. **37**(2), 177–80 (Aug. 1974)

Effect of low absorption on the spectral characteristics of multilayer systems —A. V. Tikhonravov and A. Yu. Klementeva. **37**(4), 437–9 (Oct. 1974)

71.15.+ Propagation and transmission in homogeneous and anisotropic media

Depolarization part of scattered light in liquids with anisotropic molecules —L. A. Zubkov and N. B. Rozhdestvenskaya. **37**(3), 298–300 (Sep. 1974)

71.20.– Propagation and transmission in inhomogeneous media

Calculation of scattering cross section of spherical particles with m = 1.86 (0.02) to m = 2.00 —I. T. Romanov, V. E. Kuzema, and G. A. Kitaev. **36**(4), 465 (Apr. 1974); CPM-7408X0247

Determination of polydisperse media parameters from intensity fluctuations of scattered radiation —A. P. Chaikovskii, A. Ya. Khairullina, and A. P. Ivanov. **36**(5), 566–8 (May 1974); CPM-7409X1494

Light reflection from scattering media with refracting boundaries —N. A. Voishvillo. **36**(6), 678–9 (Jun. 1974); CPM-7410X1040

Experimental study of the angular intensity distribution of light scattered by liquid crystals in a dynamic-scattering regime —I. D. Samodurova, A. S. Sonin, and A. B. Uspenskii. 36(6), 680–1 (Jun. 1974); CPM-7410X1042

Gurevich–Kubelka–Munk theory for scattering sheets with two reflecting boundaries —N. A. Voishvillo. 37(1), 75–8 (Jul. 1974)

Critical opalescence in a gravitational field —E. L. Lakoza and A. V. Chalyi. 37(1), 79–81 (Jul. 1974)

Intensity fluctuations accompanying light scattering near the focus of an optical system —G. M. Svishchev. 37(1), 104–7 (Jul. 1974)

Asymptotic time-dependent laws of radiation attenuation in media of various geometries —E. P. Zege, I. L. Katsev, and A. M. Lazaruk. 37(6), 646–50 (Dec. 1974)

Scattering of radiation by metal black —M. Yu. Sakhnovskii and M. G. Kunetskii. 37(6), 651–3 (Dec. 1974)

71.30.– Information theory

Gain in Fourier spectrometry —V. I. Tsoi and T. N. Sokolova. 36(2), 240–1 (Feb. 1974); CPM-7406X0600

Optical analog synthesizer —D. I. Mirovitskii, V. A. Torgovanov, and G. P. Cherkunova. 37(1), 101–3 (Jul. 1974)

Theory and calculation of an image multiplier using an optical tunnel —A. S. Blok. 37(2), 198–201 (Aug. 1974)

71.35.– Image formation

Estimate of the influence of loval distortions of a wavefront on optical image quality —V. A. Zverev, S. A. Rodionov, and M. N. Sokolskii. 36(4), 461–3 (Apr. 1974); CPM-7408X0243

Intensity fluctuations accompanying light scattering near the focus of an optical system —G. M. Svishchev. 37(1), 104–7 (Jul. 1974)

Resolving power of a nonlinear image converter in critical synchronism —A. V. Gainer, V. V. Lebedev, and S. I. Marennikov. 37(4), 428–30 (Oct. 1974)

Method of compensating aberrations in holographic interferometry of increased sensitivity —V. L. Afanaseva, L. T. Mustafina, and V. A. Seleznev. 37(4), 448–9 (Oct. 1974)

Signal-to-noise ratio and contrast in the image by hologram storage —A. D. Galpern. 37(5), 550–3 (Nov. 1974)

Optimal balancing of spherical aberration and choosing the plane of best placing in the systems with central screening —V. A. Zverev, S. A. Rodionov, M. N. Sokolsii, and N. I. Khlusova. 37(6), 660–3 (Dec. 1974)

Aberrations of thin holograms produced on a spherical substrate —K. S. Mustafin. 37(6), 664–6 (Dec. 1974)

71.40.– Holography

Sixth All-union School on the physical principles of holography —I. S. Klimenko. 37(6), 691 (Dec. 1974)

71.40.D General and theoretical

Possibility of a single approach to the classical and holographic methods of producing an optical image —T. Ya. Zakshetskaya, L. V. Kovalskii, and V. K. Polyanskii. 37(1), 95–7 (Jul. 1974)

71.40.F Image characteristics

The use of higher diffraction orders of holograms employed as optical components —G. N. Buinov, A. V. Lukin, and K. S. Mustafin. 37 (1), 98–100 (Jul. 1974)

Image multiplication using uniaxial holograms —G. N. Buinov, I. E. Kit, K. S. Mustafin, and M. I. Savrasova. 37(2), 196–7 (Aug. 1974)

Investigation of geometrical distortions produced by a television system for receiving and transmitting holograms —A. D. Galpern and A. A. Paramonov. 37(3), 304–7 (Sep. 1974)

Method of compensating aberrations in holographic interferometry of increased sensitivity —V. L. Afanaseva, L. T. Mustafina, and V. A. Seleznev. 37(4), 448–9 (Oct. 1974)

71.40.H Photographic and recording problems

Optimization of the method of recording phase holograms of a set of diffuse and point objects —I. S. Barbanel and E. I. Krupitskii. 36 (4), 431–4 (Apr. 1974); CPM-7408X0213

Investigation of amplitude and phase holograms of diffuse objects —V. I. Lokshin, G. B. Semenov, and A. F. Kavtrev. 36(5), 590–3 (May 1974); CPM-7409X1518

Copying holograms by stamping on a thermoplastic —I. N. Vagin and A. E. Shtanko. 36(5), 597–8 (May 1974); CPM-7409X1525

Time-averaged holographic vibrometry; features of interference pattern recording —M. M. Butusov. 37(3), 301–3 (Sep. 1974)

Wave intensities of higher orders reconstructed by a nonlinearly recorded hologram —A. V. Alekseev–Popov, I. I. Komissarova, and G. V. Ostrovskaya. 37(6), 656–9 (Dec. 1974)

Aberrations of thin holograms produced on a spherical substrate —K. S. Mustafin. 37(6), 664–6 (Dec. 1974)

71.40.K Holographic instrumentation and techniques

A Method of holographic interferometry with discrete illumination of three-dimensional phase object —V. T. Chernykh and A. F. Belozerov. 36(2), 238–9 (Feb. 1974)

Anamorphotic properties of holographic optical elements —G. N. Buinov and K. S. Mustafin. 36(3), 343 (Mar. 1974); CPM-7407X1029

Holographic synthesis of the aperture of a composite objective —Yu. E. Kuzilin and V. N. Sintsov. 36(3), 352–3 (Mar. 1974); CPM-7407X1038

Production of holographic interferograms using cw and pulsed multimode lasers —A. F. Belozerov and I. S. Zeilikovich. 36(4), 435–6 (Apr. 1974); CPM-7408X0217

The possibility of using relief-phase copies of Vander Lugt filters —V. I. Protasevich and V. S. Strukov. 36(5), 601 (May 1974); CPM-7409X1529

Method of compensating aberrations in holographic interferometry of increased sensitivity —V. L. Afanaseva, L. T. Mustafina, and V. A. Seleznev. 37(4), 448–9 (Oct. 1974)

71.40.M Applications

Image multiplication using uniaxial holograms —G. N. Buinov, I. E. Kit, K. S. Mustafin, and M. I. Savrasova. 37(2), 196–7 (Aug. 1974)

Excitation of thin-film waveguides by a holographic method —Yu. A. Bykovskii, A. V. Makovkin, and V. L. Smirnov. 37(5), 579–80 (Nov. 1974)

71.50.+ Quantum optics

Effect of strong radiation on a quantum system with degenerate levels —P. A. Apanasevich and B. D. Fainberg. 36(1), 1–3 (Jan. 1974); CPM-7406X0361

Polarization and statistical properties of laser emission from the $J=1 \rightarrow J=0$ transition —V. S. Smirnov and A. M. Tumaikin. 36(3), 315–7 (Mar. 1974); CPM-7407X1001

Transient processes and statistical phenomena in a He–Ne laser with a slowly varying pump parameter —V. E. Brazovskii and G. G. Telegin. 36(4), 429–30 (Apr. 1974); CPM-7408X0211

Quantum phenomena in coherent-radiation transfer. Part 1 —F. A. Vorobev and R. I. Sokolovskii. 36(6), 625–7 (Jun. 1974); CPM-7410X0987

Tuning of organic lasers —B. I. Stepanov and V. A. Batyrev. 37(1), 92–4 (Jul. 1974)

Effect of coherent properties of radiation on the Doppler shape of an absorption spectrum —Yu. S. Oseledchik. 37(3), 242–5 (Sep. 1974)

Amplification of infrared radiation using induced Raman scattering in the excited vibrational levels of molecules —B. A. Medvedev and O. M. Parshov. 37(3), 270–2 (Sep. 1974)

Propagation of light pulses in a nonlinear dispersive medium —A. A. Kolokolov and A. I. Sukov. 37(3), 308–11 (Sep. 1974)

71.60.– Lasers

Angular divergence of the field and minimum light spots in a ring cavity with a Gaussian diaphragm —V. F. Boitsov and T. A. Murina. 37(1), 84–6 (Jul. 1974)

Tuning of organic lasers —B. I. Stepanov and V. A. Batyrev. 37(1), 92–4 (Jul. 1974)

71.60.C Gas and ion lasers

Effect of gas pressure on low-frequency beats in a He–Ne laser —E. Yu. Andreeva, S. N. Gulyaev, and D. K. Terekhin. 36(2), 219–20 (Feb. 1974); CPM-7406X0579

Lasing line shapes in the $3s_2$–$2p_4$ and $2s_2$–$2p_4$ transitions of He–Ne laser —G. V. Melekhin. 36(2), 221–2 (Feb. 1974); CPM-7406X0581

Using nonlinear effects in a gas laser to measure isotope shift —A. P. Voitovich and A. P. Shkadarevich. 36(2), 223–5 (Feb. 1974); CPM-7406X0583
Low-frequency beats in the emission of a cw argon laser in a magnetic field —A. E. Fotiadi and S. A. Fridrikhov. 36(2), 247–8 (Feb. 1974); CPM-7406X0607
Sharp resonances in a two-frequency gas laser —S. N. Bagaev, A. K. Dmitriev, and V. P. Chebotaev. 36(3), 307–10 (Mar. 1974); CPM-7407X0993
Polarization and statistical properties of laser emission from the J=1→J=0 transition —V. S. Smirnov and A. M. Tumaikin. 36(3), 315–7 (Mar. 1974); CPM-7407X1001
Unsynchronized two-mode lasing in a gas ring laser —V. A. Sokolov and E. E. Fradkin. 36(3), 348–9 (Mar. 1974); CPM-7407X1034
Transient processes and statistical phenomena in a He–Ne laser with a slowly varying pump parameter —V. E. Brazovskii and G. G. Telegin. 36(4), 429–30 (Apr. 1974); CPM-7408X0211
Mechanism of population inversion in atomic hydrogen —V. S. Aleinikov and A. P. Shelepo. 36(4), 474–5 (Apr. 1974); CPM-7408X0256
Diffraction splitting of the frequencies of oppositely traveling waves in a gas ring laser —T. V. Guseva and E. E. Fradkin. 36(5), 572–5 (May 1974); CPM-7409X1500
Experimental study of reactive oscillations in the discharge gap of a He–Ne laser —V. E. Privalov, S. A. Frikrikhov, and G. A. Shishkin. 36(5), 576–8 (May 1974); CPM-7409X1504
Effect of colling on the characteristics of pulsed neon superradiance —N. G. Turkin and V. P. Yakunin. 36(6), 628–9 (Jun. 1974); CPM-7410X0990
Dispersion characteristic of a He–Ne laser at 0.6328 micron —G. G. Akchurin, M. L. Kats, L. A. Melnikov, V. A. Sedelnikova, and V. V. Tuchin. 37(1), 87–9 (Jul. 1974)
Submillimeter laser emission of CH_3I molecules excited by CO_2 —V. A. Svich, S. F. Dyubko, V. A. Svich, and L. D. Fesenko. 37(1), 118 (Jul. 1974)
Experimental investigation of a He–Ne laser with a discharge gap of rectangular cross section —V. E. Privalov and V. A. Khodovoi. 37 (4), 455–7 (Oct. 1974)
Drift of excited neon atoms in a discharge —V. I. Vinogradov and A. V. Eletskii. 37(5), 486–8 (Nov. 1974)
Uniform illumination using a gas laser —Yu. V. Troitskii. 37(5), 554–7 (Nov. 1974)
Striation modulation of He–Ne laser emission —Yu. G. Zakharenko. 37(5), 565–6 (Nov. 1974)
Transverse distribution of amplification in discharge gaps of concentric and sector cross sections —V. E. Privalov and S. F. Yudin. 37(5), 566–7 (Nov. 1974)
Use of dispersion properties of the active medium of a laser to stabilize its emission frequency —V. P. Kapralov and A. S. Bulygin. 37(5), 568–9 (Nov. 1974)
Investigation of several characteristics of an He—Cd laser —F. A. Korolev, A. I. Odintsov, T. V. Feofilaktova, and N. I. Kalinovskaya. 37(6), 669–70 (Dec. 1974)

71.60.E Liquid lasers

Intermolecular interactions and the stimulated emission spectra of activated liquid system. 3: —V. I. Studenov and N. G. Bakhshiev. 36(2), 226–8 (Feb. 1974); CPM-7406X0586
Continuous Nd:glass laser —N. M. Galaktionova, G. A. Garkavi, V. S. Zubkova, A. A. Mak, L. N. Soms, and M. M. Khaleev. 37(1), 90–1 (Jul. 1974)
Gain in the output efficiency of lasers based on organic dye solutions —M. I. Dzyubenko, A. Ya. Matveev, and I. G. Naumenko. 37(4), 423–5 (Oct. 1974)
Determination of the probabilities of relaxation processes in complex organic molecules from the relaxation shift of laser spectra—B. S. Neporent, V. B. Shilov, and G. V. Lukomskii. 37(6), 682–3 (Dec. 1974)

71.60.G Solid lasers

Near-threshold ruby laser under passive Q-switching —V. L. Bogdanov and V. P. Klochkov. 36(2), 233–5 (Feb. 1974); CPM-7406X0593
Interferometric measurements of the linewidths of the emission of a pulsed PbSe injection laser —V. A. Ageikin, I. I. Zasavitskii, V. G. Koloshnikov, A. I. Likhter, E. G. Pel, and A. P. Shotov. 36(4), 471–2 (Apr. 1974); CPM-7408X0253
Production of population inversion in np^2 configurations —P. A. Bokhan and G. S. Kiyashkina. 36(6), 615–7 (Jun. 1974); CPM-7410X0977
Continuous Nd:glass laser —N. M. Galaktionova, G. A. Garkavi, V. S. Zubkova, A. A. Mak, L. N. Soms, and M. M. Khaleev. 37(1), 90–1 (Jul. 1974)
Single mode cw Nd^{3+}: YAG laser —N. M. Galaktionova, V. V. Gershun, and A. A. Mak. 37(2), 184–5 (Aug. 1974)
A Nd: glass laser pumped by a lamp-excited dye laser —A. V. Aristov and V. S. Shevandin. 37(3), 336–7 (Sep. 1974)

71.60.L Laser resonators and cavities

Spectrum of a laser with an additional mirror —N. N. Rozanov. 36 (1), 103–5 (Jan. 1974); CPM-7406X0463
Frequency splitting of the oppositely traveling waves in a ring laser with a Gaussian diaphragm —V. F. Boitsov, T. A. Murina, and E. E. Fradkin. 36(3), 311–4 (Mar. 1974); CPM-7407X0997
Polarization and statistical properties of laser emission from the J=1→J=0 transition —V. S. Smirnov and A. M. Tumaikin. 36(3), 315–7 (Mar. 1974); CPM-7407X1001
Effect of small perturbations on the polarization of single-mode laser radiation with a homogeneous lasing transition line —I. P. Mazanko. 36(3), 318–20 (Mar. 1974); CPM-7407X1004
Diffraction losses of open resonators —M. M. Popov. 36(3), 324–7 (Mar. 1974); CPM-7407X1010
Field in a cavity with two quasi-quarter-wave plates —M. A. Gubin, G. I. Kozin, and E. D. Protsenko. 36(3), 328–30 (Mar. 1974); CPM-7407X1014
Unsynchronized two-mode lasing in a gas ring laser —V. A. Sokolov and E. E. Fradkin. 36(3), 348–9 (Mar. 1974); CPM-7407X1034
Laser spectrum selection with telescopic resonators —V. V. Lyubimov, S. K. Medvedev, I. B. Orlova, and V. F. Petrov. 36(4), 469–70 (Apr. 1974); CPM-7408X0251
Natural frequencies and polarizations of a ring resonator —T. F. Pankratova. 36(5), 569–71 (May 1974); CPM-7409X1497
Diffraction splitting of the frequencies of oppositely traveling waves in a gas ring laser —T. V. Guseva and E. E. Fradkin. 36(5), 572–5 (May 1974); CPM-7409X1500
Aberrations in cavities with misadjusted mirrors —S. Yu. Slavyanov and V. G. Farafonov. 37(1), 117–8 (Jul. 1974)
Theory of diffraction phenomena in a ring laser —A. Ya. Birman and A. F. Savushkin. 37(2), 181–3 (Aug. 1974)
Single mode cw Nd^{3+}: YAG laser —N. M. Galaktionova, V. V. Gershun, and A. A. Mak. 37(2), 184–5 (Aug. 1974)
The effect of movement of an additional mirror on the intensity produced by a gas laser —V. I. Perel and M. B. Tendler. 37(3), 322–4 (Sep. 1974)
Production of narrow resonances in a long iodine absorption cell —V. I. Bobrik, Yu. D. Kolominkov, and B. S. Mogilnitskii. 37(3), 343 (Sep. 1974)
Gain in the output efficiency of lasers based on organic dye solutions —M. I. Dzyubenko, A. Ya. Matveev, and I. G. Naumenko. 37(4), 423–5 (Oct. 1974)
Experimental investigation of a He–Ne laser with a discharge gap of rectangular cross section —V. E. Privalov and V. A. Khodovoi. 37 (4), 455–7 (Oct. 1974)

71.60.M Auxiliary systems and devices

Design of laser polarizers based on total internal reflection —Yu. A. Nestrizhenko. 36(1), 109–11 (Jan. 1974); CPM-7406X0469
Radiation of lasers with controllable phototropic shutters —G. N. Vinokurov and V. E. Terentev. 36(2), 229–32 (Feb. 1974); CPM-7406X0589
Frequency splitting of the oppositely traveling waves in a ring laser with a Gaussian diaphragm —V. F. Boitsov, T. A. Murina, and E. E. Fradkin. 36(3), 311–4 (Mar. 1974); CPM-7407X0997
Efficient polarization of laser radiation by a prism with small birefringence —Yu. A. Nestrizhenko, O. G. Dalchenko, A. P. Pyatikop, and V. V. Shevchenko. 36(3), 321–3 (Mar. 1974); CPM-7407X1007
Efficiency of liquid luminescence filter in a ruby laser —M. B. Levin, A. S. Cherkasov, and V. I. Shirokov. 36(5), 579–80 (May 1974)
Total-internal-reflection polarizer as an interference-polarization filter for a laser —Yu. A. Nestrizhenko. 37(2), 186–9 (Aug. 1974)
Determination of the spectroscopic parameters of passive shutters made of KS-19 glass —S. A. Mikhnov, V. E. Matyushkov, and V. P. Khyuppenen. 37(2), 190–1 (Aug. 1974)

71.60.N Laser beam interactions and properties

Polarization and statistical properties of laser emission from the J=1→J=0 transition —V. S. Smirnov and A. M. Tumaikin. **36**(3), 315–7 (Mar. 1974); CPM-7407X1001

Effect of small perturbations on the polarization of single-mode laser radiation with a homogeneous lasing transition line —I. P. Mazanko. **36**(3), 318–20 (Mar. 1974); CPM-7407X1004

Efficient polarization of laser radiation by a prism with small birefringence —Yu. A. Nestrizhenko, O. G. Dalchenko, A. P. Pyatikop, and V. V. Shevchenko. **36**(3), 321–3 (Mar. 1974); CPM-7407X1007

Diffraction of laser radiation by a magnetic grating —A. A. Solomko and V. I. Mykityuk. **36**(5), 584–6 (May 1974); CPM-7409X1512

Saturation in molecular systems —V. F. Papulovskii. **37**(2), 142–3 (Aug. 1974)

Some problems of the theory of acoustics modulating and deflecting devices —V. N. Mozhaiskii and A. S. Sonin. **37**(2), 192–5 (Aug. 1974)

Negative absorption in the region of laser-emission focusing with free-free transitions —V. A. Zhuravlev and G. D. Petrov. **37**(4), 441–2 (Oct. 1974)

71.60.Q Laser beam applications

Rapid spectroscopy using lasers with swept lasing frequency —S. P. Anokhov, V. I. Kravchenko, and M. S. Soskin. **36**(1), 106–8 (Jan. 1974); CPM-7406X0466

Laser doppler velocimeter with compensation of additive components of interference and noise —A. I. Vatrushkin, Yu. N. Dubnishchev, and T. Ya. Popova. **36**(6), 690–1 (Jun. 1974); CPM-7410X1052

Measurement of the pressure broadening and shift of the NH_3 vibration–rotation line (asQ(5,3) ν_2) by the method of out-of-resonance CO_2 laser radiation —V. S. Letokhov, A. G. Platova, and O. A. Tumanov. **37**(1), 29–30 (Jul. 1974)

Highly excited vibrational-rotational states of molecules by the method of selective losses in the resonator of a laser —T. P. Belikova, E. A. Sviridenkov, and A. F. Suchkov. **37**(4), 372–5 (Oct. 1974)

Symposium on laser spectroscopy —G. Kh. Tartakovskii and V. F. Shabanov. **37**(6), 689 (Dec. 1974)

71.65.– Nonlinear optics

Two-photon ionization of H^+_2 —V. A. Davydkin and L. P. Rapoport. **36**(2), 141–4 (Feb. 1974); CPM-7406X0501

Nonlinear absorption of a weak field in an intense field in resonance fluorescence —T. Ya. Popova. **36**(3), 350 (Mar. 1974); CPM-7407X1036

Six-photon interaction between light waves in resonant media —P. A. Apanasevich and A. I. Urbanovich. **36**(4), 437–8 (Apr. 1974); CPM-7408X0219

Nonlinear frequency converter as an infrared spectrometer and receiver —E. N. Antonov, V. G. Koloshnikov, and D. N. Nikogosyan. **36**(4), 446–8 (Apr. 1974); CPM-7408X0228

Quadratic Stark effect in a partially polarized field —B. A. Zon. **36**(5), 489–92 (May 1974); CPM-7409X1417

Theory of induced four-photon light scattering in resonant media — A. A. Afanasev and A. I. Urbanovich. **36**(5), 581–3 (May 1974); CPM-7409X1509

Propagation of light pulses in a nonlinear dispersive medium —A. A. Kolokolov and A. I. Sukov. **37**(3), 308–11 (Sep. 1974)

Profile of a luminescence pulse excited by a stationary pulse —B. B. Averbukh and R. I. Sokolovskii. **37**(5), 525–6 (Nov. 1974)

Optical saturation during high-power excitation of luminescence in the vapors of complex organic compounds —V. V. Danilov, Yu. T. Mazurenko, and M. A. Ter-Pogosyan. **37**(6), 678–80 (Dec. 1974)

71.65.D Stimulated Raman, parametric oscillations, and other interactions of radiation with matter

Raman scattering in crystalline chlorine and bromine —I. V. Aleksandrov, Ya. S. Bobovich, A. V. Bortkevich, and M. Ya. Tsenter. **36**(1), 86–9 (Jan. 1974); CPM-7406X0446

Parametric scattering of electromagnetic radiation by plasmons —V. A. Bushuev. **36**(2), 205–8 (Feb. 1974); CPM-7406X0565

Spectral composition of stimulated Raman scattering of nitric acid aqueous solutions as a function of pumping level —I. Kondilenko, P. A. Korotkov, and V. I. Malyi. **36**(3), 280–2 (Mar. 1974); CPM-7407X0966

Possibility of changing the frequency of dispersion matching by varying the angles between the directions of parametrically interacting waves —A. A. Babin, Yu. N. Belyaev, V. M. Fortus, and G. I. Freidman. **36**(3), 338–9 (Mar. 1974); CPM-7407X1024

Calculation of nonlinear susceptibilities and nonlinear indices of refraction from spontaneous Raman scattering data —N. D. Shvedova and L. M. Sverdlov. **36**(4), 443–5 (Apr. 1974); CPM-7408X0225

Thermal effects on parametric light scattering in $LiNbO_3$ —Yu. A. Gorokhov, D. P. Krindach, V. S. Maiorov, and V. S. Shevera. **36** (5), 587–9 (May 1974); CPM-7409X1515

Amplification of infrared radiation using induced Raman scattering in the excited vibrational levels of molecules —B. A. Medvedev and O. M. Parshov. **37**(3), 270–2 (Sep. 1974)

Influence of the competition of vibrations on the spectral structure in stimulated Raman scattering —I. I. Kondilenko, P. A. Korotkov, and V. I. Malyi. **37**(4), 457–8 (Oct. 1974)

71.65.F Harmonic generation

Characteristics of second-harmonic intensity distribution at the output of a linearly inhomogeneous medium —O. F. Butyagin, A. A. Kazakov, and E. A. Kolyushenko. **36**(1), 112–5 (Jan. 1974); CPM-7406X0472

Transient optical second-harmonic excitation with phase mismatch — G. V. Krivoshchekov, N. G. Nikulin, and V. I. Stroganov. **36**(3), 335–7 (Mar. 1974); CPM-7407X1021

Out-of-synchronism harmonic excitation in nonlinear media by finite-aperture beams —V. I. Samarin, V. I. Stroganov, and S. V. Sorokin. **36**(4), 440–2 (Apr. 1974); CPM-7408X0222

Nonlinear polarization of quantum systems with degenerate transitions —B. D. Fainberg. **36**(6), 682–6 (Jun. 1974); CPM-7410X1044

Spectral, angular, and temperature characteristics of HIO_3, $LiIO_3$, CDA, DKDP, KDP, and ADP nonlinear crystals in second- and fourth-harmonic generation —R. B. Andreev, V. D. Volosov, and A. G. Kalintsev. **37**(2), 169–71 (Aug. 1974)

Interference effects during excitation of optical harmonics —V. I. Stroganov and V. I. Samarin. **37**(2), 172–4 (Aug. 1974)

Calculation of directions of phase matching in collinear and vector interaction of waves in different crystals —V. D. Volosov and A. G. Kalintsev. **37**(4), 426–7 (Oct. 1974)

Resolving power of a nonlinear image converter in critical synchronism —A. V. Gainer, V. V. Lebedev, and S. I. Marennikov. **37**(4), 428–30 (Oct. 1974)

71.65.H Beam trapping and related effects

Influence of alignment of excited atoms on the light absorption coefficient in a gaseous medium —I. V. Rogova. **37**(1), 4–6 (Jul. 1974)

71.70.– Optical materials

Dependence of optical absorption of sodium borate glass on the electron irradiation dose —V. G. Vakhromeev and S. P. Zinoveva. **36**(2), 246–7 (Feb. 1974); CPM-7406X0606

Nonradiative energy transfer in phosphate glasses activated with rare earth ions —S. L. Kraevskii, Yu. P. Rudnitskii, and E. I. Sverchkov. **36**(6), 662–5 (Jun. 1974); CPM-7410X1024

Form of constitutive equations in optically active crystals —B. V. Bokut, A. N. Serdyukov, and F. I. Fedorov. **37**(2), 166–8 (Aug. 1974)

Determination of the spectroscopic parameters of passive shutters made of KS-19 glass —S. A. Mikhnov, V. E. Matyushkov, and V. P. Khyuppenen. **37**(2), 190–1 (Aug. 1974)

Photochromism of spiropyrans by laser photolysis —V. A. Murin, V. F. Mandzhikov, S. G. Kuzmin, and V. A. Barachevskii. **37**(2), 216–8 (Aug. 1974)

Investigation of the acoustooptical properties of glasses of the As-S-I-Sb system —I. I. Adrianova, L. N. Asnis, V. V. Melnikov, and A. V. Petrova. **37**(4), 444–5 (Oct. 1974)

Absorption spectrum and photochemical coloring of thin granular Ag-AgI-N. Yadamsuren. **37**(6), 643–5 (Dec. 1974)

Investigation of the nature of intermediate products of photochromic transformations of spiropyrans —V. A. Murin, V. F. Mandzhikov, and V. A. Barachevskii. **37**(6), 674–6 (Dec. 1974)

71.75.– Optical measurements and instrumentation

Double-beam three-plate interferometer with polarizing elements —V. Kh. Goikman, G. M. Izakson, and V. A. Moskalev. **36**(1), 121–2 (Jan. 1974); CPM-7406X0481

Laser doppler velocimeter with compensation of additive components of interference and noise —A. I. Vatrushkin, Yu. N. Dubnishchev, and T. Ya. Popova. **36**(6), 690–1 (Jun. 1974); CPM-7410X1052

Supercooled germanium bolometer for the near ir region —N. A. Pankratov and V. P. Korotkov. **37**(1), 108–10 (Jul. 1974)

Ellipsometry of inhomogeneous surface films —L. L. Vasileva, K. K. Svitashev, A. I. Semenenko, L. V. Semenenko, and V. K. Sokolov. **37**(3), 325–8 (Sep. 1974)

Method of refractive-index measurement for transparent substances — V. A. Odarich. **37**(4), 431–3 (Oct. 1974)

Use of bands of equal chromatic order for investigating anomalous dispersion —V. A. Moskalev, I. M. Nagibina, and N. A. Polushkina. **37**(5), 558–9 (Nov. 1974)

71.78.+ Optical lens and mirror systems

Discrete deflector of polychromatic light —E. I. Golovanevskiĭ, S. A. Konovalova, and V. N. Churilovskii. **36**(2), 245–6 (Feb. 1974); CPM-7406X0605

Holographic synthesis of the aperture of a composite objective —Yu. E. Kuzilin and V. N. Sintsov. **36**(3), 352–3 (Mar. 1974); CPM-7407X1038

Properties of absorbing multilayer interference filters —A. Yu. Klementeva and A. V. Tikhonravov. **36**(4), 452–4 (Apr. 1974); CPM-7408X0234

Angular divergence of the field and minimum light spots in a ring cavity with a Gaussian diaphragm —V. F. Boitsov and T. A. Murina. **37**(1), 84–6 (Jul. 1974)

Propagation of light in a narrow gap between plane metal mirrors —V. A. Pruzhanovskii. **37**(4), 452–3 (Oct. 1974)

71.80.– Optical devices and applications

Resolving power of a nonlinear image converter in critical synchronism —A. V. Gainer, V. V. Lebedev, and S. I. Marennikov. **37**(4), 428–30 (Oct. 1974)

71.80.C Spatial filters and zone plates

Low-reflection thin-layer coatings for oblique incidence of light —I. M. Minkov. **37**(3), 332–5 (Sep. 1974)

71.80.E Spectral filters

Relationships characterizing the optical properties of dielectric narrow-band interference filters —Sh. A. Furman. **36**(2), 242–4 (Feb. 1974); CPM-7406X0602

Synthesis of multilayer optical coatings —Sh. A. Furman and E. G. Stolov. **36**(3), 340–2 (Mar. 1974); CPM-7407X1026

Properties of absorbing multilayer interference filters —A. Yu. Klementeva and A. V. Tikhonravov. **36**(4), 452–4 (Apr. 1974); CPM-7408X0234

Interference filters for the far infrared —Yu. I. Kolesov and V. N. Listvin. **36**(4), 455–6 (Apr. 1974); CPM-7408X0237

Synthesis of multilayer optical coatings for the case when the specified spectral characteristic has discontinuities —E. G. Stolov and Sh. A. Furman. **36**(6), 702–4 (Jun. 1974); CPM-7410X1064

Factors that determine the peculiarities in the variations of the optical characteristics of narrowband interference filters —Sh. A. Furman and M. D. Levina. **37**(4), 434–6 (Oct. 1974)

71.80.G Polarizers

Design of laser polarizers based on total internal reflection —Yu. A. Nestrizhenko. **36**(1), 109–11 (Jan. 1974); CPM-7406X0469

Ellipsometric method for measuring optical constants and thickness of thin absorbing films on metal substrates —I. N. Shklyarevskii, A. F. A. El Shazli, R. G. Yarovaya, and V. P. Kostyuk. **36**(1), 116–8 (Jan. 1974); CPM-7406X0476

Ellipsometry of ultrathin transparent films —G. A. Egorova, N. S. Ivanova, E. V. Potapov, and A. V. Rakov. **36**(4), 449–51 (Apr. 1974); CPM-7408X0231

Total-internal-reflection polarizer as an interference-polarization filter for a laser —Yu. A. Nestrizhenko. **37**(2), 186–9 (Aug. 1974)

71.80.J Fiber optics

Diffraction on the entrance face plane of an optic fiber —L. M. Kuchikyan. **36**(3), 346–7 (Mar. 1974); CPM-7407X1032

Some problems of the geometrical optics of straight hexagonal optical fibers —L. M. Kuchikyan. **36**(4), 467–9 (Apr. 1974); CPM-7408X0249

71.80.L Light modulators and optical waveguides

Propagation of laser radiation in randomly magnetized ferrite garnets —A. A. Solomko and V. I. Mykityuk. **36**(2), 236–9 (Feb. 1974); CPM-7406X0596

Nonlinear frequency converter as an infrared spectrometer and receiver —E. N. Antonov, V. G. Koloshnikov, and D. N. Nikogosyan. **36**(4), 446–8 (Apr. 1974); CPM-7408X0228

Polarization of light in light-guides of square shape —L. M. Kuchikyan and A. V. Volyar. **36**(5), 595–6 (May 1974); CPM-7409X1523

Some problems of the theory of acoustics modulating and deflecting devices —V. N. Mozhaiskii and A. S. Sonin. **37**(2), 192–5 (Aug. 1974)

Frequency multiplication of coherent radiation in an optical microwaveguide with a nonlinear layer of lithium niobate —A. T. Reutov and P. P. Tarashchenko. **37**(4), 447–8 (Oct. 1974)

Propagation of light in a narrow gap between plane metal mirrors —V. A. Pruzhanovskii. **37**(4), 452–3 (Oct. 1974).

Excitation of thin-film waveguides by a holographic method —Yu. A. Bykovskii, A. V. Makovkin, and V. L. Smirnov. **37**(5), 579–80 (Nov. 1974)

71.85.+ Optical testing and workshop techniques

Light echo in a nonuniform external field —A. I. Alekseev and I. V. Evseev. **36**(6), 692–4 (Jun. 1974); CPM-7410X1054

Method of refractive-index measurement for transparent substances — V. A. Odarich. **37**(4), 431–3 (Oct. 1974)

71.90.+ Other topics in optics

Optics in the academy of sciences (on the 250th anniversary of the academy of sciences of the USSR —S. E. Frish. **36**(5), 477–81 (May 1974); CPM-7409X1405

73. BIOPHYSICS, MEDICAL PHYSICS, AND BIOMEDICAL ENGINEERING

Absorption spectra of bases of nucleic acids (110–300 nm) and their luminescence excited in the vacuum ultraviolet region —I. P. Vinogradov, V. V. Zemskikh, and N. Ya. Dononova. **36**(3), 344–5 (Mar. 1974); CPM-7407X1030

Internal heavy-atom effect in porphyrin molecules. 2: Halogen derivatives of deuteroporphyrin IX—A. T. Gradyushko, D. T. Kozhich, K. N. Sokolev, and M. P. Tsvirko. **37**(5), 510–2 (Nov. 1974)

74. PHYSICAL CHEMISTRY

74.30.– Chemical reactions

Mechanism of ozone formation in the molecular-oxygen glow discharge —L. E. Khvorostovskaya and V. A. Yankovskii. **37**(1), 13–5 (Jul. 1974)

Electromagnetic radiation due to symmetric ion–atom collisions —G. F. Drukarev and A. A. Mikhailov. **37**(2), 220–1 (Aug. 1974)

Electron transfer in atomic collisions —G. K. Ivanov. **37**(4), 361–4 (Oct. 1974)

74.50.– Photochemistry and radiation chemistry

The $\lambda = 4600$-Å band in a spectrum produced by pulsed photolysis of chromium carbonyl —Yu. M. Efremov, A. N. Samoilova, and L. V. Gurvich. **36**(4), 381–2 (Apr. 1974); CPM-7408X0163

Deactivation of triplet states and delayed fluorescence of cyanine dyes in sensitized photoexcitation —A. K. Chibisov, V. S. Kuzmin, and Yu. I. Lifanov. **36**(5), 537–40 (May 1974); CPM-7409X1465

Participation of dipolons in the two-stage process of photochemical coloration of alkali halide crystal —G. A. Rozman. 36(5), 594–5 (May 1974); CPM-7409X1522
Stepwise excitation of anti-Stokes fluorescence and photochemical processes in solutions of polymethine dyes —E. N. Kaliteevskaya and T. K. Razumova. 36(6), 654–7 (Jun. 1974); CPM-7410X1016
Laser photolysis of porphyrin complexes with transitions metal ions — B. M. Dzhagarov, G. P. Gurinovich, and A. M. Simonov. 37(2), 146–8 (Aug. 1974)
Photochromism of spiropyrans by laser photolysis —V. A. Murin, V. F. Mandzhikov, S. G. Kuzmin, and V. A. Barachevskii. 37(2), 216–8 (Aug. 1974)
Continuum intensity of an air plasma at T=20,000 K —V. Yu. Vinogradov, L. S. Nikolaevskii, and I. V. Podmoshenskii. 37(2), 222 (Aug. 1974)
Measurement of quantum yield of the intercombination conversion in phthalocyanine solutions —A. V. Butenin, B. Ya. Kogan, E. A. Lukyanets, and L. I. Molchanova. 37(4), 395–7 (Oct. 1974)
Removal of the orbital degeneracy of the ground state of the zinc–etioporphyrin radical–anion in solution —V. G. Maslov. 37 (5), 580–1 (Nov. 1974)

74.90.+ Other topics in physical chemistry

Luminescence of solid aromatic substances in active nitrogen —V. D. Shatrov, O. F. Pugachev, and E. B. Gordon. 36(4), 413–5 (Apr. 1974); CPM-7408X0195
Calculation of scattering cross section of spherical particles with m=1.86 (0.02) to m=2.00 —I. T. Romanov, V. E. Kuzema, and G. A. Kitaev. 36(4), 465 (Apr. 1974); CPM-7408X0247
Character of the change in lifetime during oxygen quenching of the afterglow of adsorbates —I. A. Zakharov, T. I. Grishaeva, and V. B. Aleskovskii. 36(5), 541–4 (May 1974); CPM-7409X1469
Determination of polydisperse media parameters from intensity fluctuations of scattered radiation —A. P. Chaikovskii, A. Ya. Khairullina, and A. P. Ivanov. 36(5), 566–8 (May 1974); CPM-7409X1494
Intermolecular interactions and the spectra of molecules in multicomponent solutions. 4. The effect of ions on the electronic spectra of molecules in aqueous solutions —G. A. Malikina and N. G. Bakhshiev. 37(1), 41–3 (Jul. 1974)
Laser photolysis of porphyrin complexes with transitions metal ions — B. M. Dzhagarov, G. P. Gurinovich, and A. M. Simonov. 37(2), 146–8 (Aug. 1974)

76. ELECTROMAGNETIC TECHNOLOGY

Optical analog synthesizer —D. I. Mirovitskii, V. A. Torgovanov, and G. P. Cherkunova. 37(1), 101–3 (Jul. 1974)
Transient radiation of a current-carrying charged cluster crossing a plane–parallel ferrodielectric plate —A. B. Kukanov, G. A. Lavrova, and O. G. Goryaga. 37(4), 454–5 (Oct. 1974)

77. ELECTRICAL AND MAGNETIC DEVICES

Propagation of laser radiation in randomly magnetized ferrite garnets —A. A. Solomko and V. I. Mykityuk. 36(2), 236–9 (Feb. 1974); CPM-7406X0596
Excitation of thin–film waveguides by a holographic method —Yu. A. Bykovskii, A. V. Makovkin, and V. L. Smirnov. 37(5), 579–80 (Nov. 1974)

82. ASTRONOMY, ASTROMETRY AND ASTRONOMICAL INSTRUMENTATION

Nature of the red shift of hydrogen lines in a dense plasma —A. V. Demura and G. V. Sholin. 36(6), 711 (Jun. 1974); CPM-7410X1073
Optical analog synthesizer —D. I. Mirovitskii, V. A. Torgovanov, and G. P. Cherkunova. 37(1), 101–3 (Jul. 1974)

AUTHOR INDEX TO VOLUMES 36-37

Papers are arranged in ascending page number order.

A

Abramov, A. P.—Peculiarities of the kinetics of uranyl–compound luminescence at low temperature —A. P. Abramov and N. A. Tolstoi. **37**(2), 203–5 (Aug. 1974)

Abroyan, M. A.—Spectroscopic determination of electron concentration in the arc of a duoplasmatron ion source —M. A. Abroyan, Yu. M. Kagan, N. B. Kolokolov, and B. P. Lavrov. **36** (4), 375–7 (Apr. 1974); CPM-7408X0157

Adrianova, I. I.—Electrooptical effect in lead magnesium biobate crystals of pyrochlore structure —I. I. Adrianova, A. A. Berezhnoi, E. V. Nefedova, V. A. Pismennyi, Yu. V. Popov, and K. P. Skornyakova. **36**(5), 547–8 (May 1974); CPM-7409X1475

—Investigation of the acoustooptical properties of glasses of the As–S–I–Sb system —I. I. Adrianova, L. N. Asnis, V. V. Melnikov, and A. V. Petrova. **37**(4), 444–5 (Oct. 1974)

Afanasev, A. A.—Theory of induced four–photon light scattering in resonant media —A. A. Afanasev and A. I. Urbanovich. **36**(5), 581–3 (May 1974); CPM-7409X1509

Afanaseva, V. L.—Method of compensating aberrations in holographic interferometry of increased sensitivity —V. L. Afanaseva, L. T. Mustafina, and V. A. Seleznev. **37**(4), 448–9 (Oct. 1974)

Afonin, V. P.—Spectral intensity of continuous x-radiation from a massive target —A. I. Egorov and V. P. Afonin. **37**(1), 113–4 (Jul. 1974)

Ageev, L. A.—Optical constants for the region of CuI exciton absorption —L. A. Ageev, V. K. Miloslavskii, and T. I. Maksimenko. **36**(1), 76–9 (Jan. 1974); CPM-7406X0436

Ageikin, V. A.—Interferometric measurements of the linewidths of the emission of a pulsed PbSe injection laser —V. A. Ageikin, I. I. Zasavitskii, V. G. Koloshnikov, A. I. Likhter, E. G. Pel, and A. P. Shotov. **36**(4), 471–2 (Apr. 1974); CPM-7408X0253

Aivazova, A. A.—Molecular scattering of light in liquid dioxane —Sh. O. Otazhonov, A. A. Aivazova, and B. M. Nosenko. **36**(2), 217–8 (Feb. 1974); CPM-7406X0577

Akchurin, G. G.—Dispersion characteristic of a He–Ne laser at 0.6328 micron —G. G. Akchurin, M. L. Kats, L. A. Melnikov, V. A. Sedelnikova, and V. V. Tuchin. **37**(1), 87–9 (Jul. 1974)

Akhmedzhanov, R.—Infrared spectra of a cryosystem: carbon tetrafluoride —R. Akhmedzhanov, V. V. Bertsev, M. O. Bulanin, and L. A. Zhigula. **36**(6), 709–10 (Jun. 1974); CPM-7410X1071

Akopyan, M. E.—Photoelectron spectra of a number of substitution products of thiophosphoryl chloride —V. I. Vovna, S. N. Lopatin, R. Pettsold, F. I. Vilesov, and M. E. Akopyan. **36**(1), 99–102 (Jan. 1974); CPM-7406X0459

—Photoelectron spectra of trimethylamine derivatives —M. E. Akopyan and Yu. V. Loginov. **37**(3), 250–2 (Sep. 1974)

Akopyan, S. Kh.—Effect of intermolecular interactions on the vibrational spectra of molecules. 13: Intensities and frequencies of the ir band of the antisymmetric stretching vibration of CS_2 —S. Kh. Akopyan, O. P. Girin, and N. G. Bakhshiev. **36**(2), 185–8 (Feb. 1974); CPM-7406X0545

Aksenov, V. P.—Spectra of ions in the Co I isoelectronic sequence. Part 1: Ga V —V. P. Aksenov and A. N. Ryabtsev. **37**(5), 492–4 (Nov. 1974)

Aleinikov, V. S.—Mechanism of population inversion in atomic hydrogen —V. S. Aleinikov and A. P. Shelepo. **36**(4), 474–5 (Apr. 1974); CPM-7408X0256

Aleksakhin, I. S.—Excitation of resonance lines of K II in electron–atom collisions —V. S. Vukstich, I. S. Aleksakhin, and I. P. Zapesochnyi. **36**(5), 604–5 (May 1974); CPM-7409X1532

—Experiments on the electron impact excitation of beryllium atoms —I. S. Aleksakhin and V. A. Zayats. **36**(6), 717 (Jun. 1974); CPM-7410X1079

—Electron impact excitation of alkaline earth atoms. III: Strontium (triplets) —I. S. Aleksakhin, I. I. Garga, I. P. Zapesochnii, and V. P. Starodub. **37**(1), 10–3 (Jul. 1974)

—Electron impact excitation of alkaline earth atoms. IV: Calcium —I. I. Garga, I. S. Aleksakhin, V. P. Starodub, and I. P. Zapesochnii. **37**(5), 482–5 (Nov. 1974)

Aleksandrov, I. V.—Raman scattering in crystalline chlorine and bromine —I. V. Aleksandrov, Ya. S. Bobovich, A. V. Bortkevich, and M. Ya. Tsenter. **36**(1), 86–9 (Jan. 1974); CPM-7406X0446

—Raman spectra of metal phthalocyanines and their negative ions —I. V. Aleksandrov, Ya. S. Bobovich, V. G. Maslov, and A. N. Sidorov. **37**(3), 265–9 (Sep. 1974)

Aleksandrov, V. Ya.—Spectroscopic determination of ionization equilibrium by modulation of a discharge current —V. Ya. Aleksandrov, N. S. Gruzdeva, and I. V. Podmoshenskii. **37**(4), 369–71 (Oct. 1974)

—Influence of the Penning effect on electron–ion recombination in a helium arc plasma —V. Ya. Aleksandrov, D. B. Gurevich, A. B. Mikhailov, and I. V. Podmoshenskii. **37**(5), 489–91 (Nov. 1974)

Aleksanyan, V. T.—Vibration spectra of tetramethyl compounds of elements of group IV —A. M. Pyndyk, M. R. Aliev, and V. T. Aleksanyan. **36**(4), 393–6 (Apr. 1974); CPM-7408X0175

Alekseev, A. I.—Light echo in a nonuniform external field —A. I. Alekseev and I. V. Evseev. **36**(6), 692–4 (Jun. 1974); CPM-7410X1054

Alekseev, E. N.—Optical properties of thin garanular films of tellurium —I. N. Shklyarevskii, A. I. Usoskin, V. P. Lebedev, and E. N. Alekseev. **36**(4), 457–60 (Apr. 1974); CPM-7408X0239

Alekseev–Popov, A. V.—Wave intensities of higher orders reconstructed by a nonlinearly recorded hologram —A. V. Alekseev–Popov, I. I. Komissarova, and G. V. Ostrovskaya. **37**(6), 656–9 (Dec. 1974)

Aleskovskii, V. B.—Character of the change in lifetime during oxygen quenching of the afterglow of adsorbates —I. A. Zakharov, T. I. Grishaeva, and V. B. Aleskovskii. **36**(5), 541–4 (May 1974); CPM-7409X1469

Alfimov, M. V.—Radioluminescence of solid solutions of naphthalene–d_8 in methylcyclohexane and butyl chloride under x-ray irradiation —I. A. Lisovskaya and M. V. Alfimov. **37**(6), 624–6 (Dec. 1974)

Aliev, M. R.—Determination of the signs of the electrooptical parameters from experimental data on dipole moments —V. M. Mikhailov and M. R. Aliev. **36**(3), 351–2 (Mar. 1974); CPM-7407X1037

—Vibration spectra of tetramethyl compounds of elements of group IV —A. M. Pyndyk, M. R. Aliev, and V. T. Aleksanyan. **36**(4), 393–6 (Apr. 1974); CPM-7408X0175

Altshuler, N. S.—Spectra of f–f transitions of the Eu^{2+} ion in $KMgF_3$ and $NaMgF_3$ crystals —N. S. Altshuler, L. D. Livanova, and A. L. Stolov. **36**(1), 72–5 (Jan. 1974); CPM-7406X0432

Andreev, R. B.—Spectral, angular, and temperature characteristics of HIO_3, $LiIO_3$, CDA, DKDP, KDP, and ADP nonlinear crystals in second– and fourth–harmonic generation —R. B. Andreev, V. D. Volosov, and A. G. Kalintsev. **37**(2), 169–71 (Aug. 1974)

Andreeva, E. Yu.—Effect of gas pressure on low–frequency beats in a He–Ne laser —E. Yu. Andreeva, S. N. Gulyaev, and D. K. Terekhin. **36**(2), 219–20 (Feb. 1974); CPM-7406X0579

Andreeva, T. K.—Spectral luminescence study of solutions of active Nd^{3+} centers in $POCl_3 + SnCl_4$ —T. K. Andreeva, M. E. Zhabotinskii, L. V. Levkin, and V. I. Ralchenko. **37**(5), 529–32 (Nov. 1974)

Anisimova, G. P.—Calculation of transition probabilities between the $3p^5ns$–$3p^54p$ configurations of Ar I from gyromagnetic rations —G. P. Anisimova and R. I. Semenov. **36**(2), 130–1 (Feb. 1974); CPM-7406X0490

Anokhov, S. P.—Rapid spectroscopy using lasers with swept lasing frequency —S. P. Anokhov, V. I. Kravchenko, and M. S. Soskin. **36**(1), 106–8 (Jan. 1974); CPM-7406X0466

Antonov, E. N.—Nonlinear frequency converter as an infrared spectrometer and receiver —E. N. Antonov, V. G. Koloshnikov, and D. N. Nikogosyan. **36**(4), 446–8 (Apr. 1974); CPM-7408X0228

Apanasevich, P. A.—Effect of strong radiation on a quantum system with degenerate levels —P. A. Apanasevich and B. D. Fainberg. **36**(1), 1–3 (Jan. 1974); CPM-7406X0361

—Six–photon interaction between light waves in resonant media —P. A. Apanasevich and A. I. Urbanovich. **36**(4), 437–8 (Apr. 1974); CPM-7408X0219

Aristov, A. V.—A Nd: glass laser pumped by a lamp–excited dye laser —A. V. Aristov and V. S. Shevandin. **37**(3), 336–7 (Sep. 1974)

—Effect of deuteration of the solvent on the rate constants for fluorescence quenching in solutions of organic luminors —A. V. Aristov, E. N. Viktorova, and A. P. Serov. **37**(5), 576–7 (Nov. 1974)

Arkhipenko, D. K.—Determination of the symmetry of the normal vibrations and factor–group analysis of the fluoroapatite crystal — D. K. Arkhipenko, V. N. Stolpovskaya, and B. A. Orekhov. **36**(4), 411–2 (Apr. 1974); CPM-7408X0193

Artemova, L. K.—Sensitized phosphorescence of naphthalene in toluene at 77K —T. N. Bolotnikova and L. K. Artemova. **37**(4), 443–4 (Oct. 1974)

Artyukhovskaya, L. M.—Behavior of the refractive index of heptane in a wide temperature region along the saturation curve including the neighborhood of the critical point —L. M. Artyukhovskaya, E. T. Shimanskaya, and Yu. I. Shimanskii. **37**(5), 533–6 (Nov. 1974)

Arutyunyan, F. R.—Radiation of electrons moving toward a silver surface at grazing angles. Radiation on surface irregularities —F. R. Arutyunyan, A. Kh. Mkhitaryan, R. A. Oganesyan, and B. O. Rostomyan. **36**(6), 672–4 (Jun. 1974); CPM-7410X1034

Aslanidi, E. B.—Effect of solvent on the nonlinear properties of solutions of organic dyes —E. B. Aslanidi, A. I. Kurasbediani, B. S. Lezhava, and V. V. Mumladze. **37**(3), 273–5 (Sep. 1974)

—Two–photon absorption spectra of organic dye molecules —E. B. Aslanidi and E. A. Tikhonov. **37**(4), 446–7 (Oct. 1974)

Asnis, L. N.—Investigation of the acoustooptical properties of glasses of the As–S–I–Sb system —I. I. Adrianova, L. N. Asnis, V. V. Melnikov, and A. V. Petrova. **37**(4), 444–5 (Oct. 1974)

Atakhodzhaev, A. K.—Rayleigh line shape and width of aniline, quinoline, and other liquids as function of temperature —F. Kh. Tukhvatullin, F. Ganiev, A. K. Atakhodzhaev, and I. P. Kleiner. **37**(2), 144–5 (Aug. 1974)

Avdonin, V. P.—Electron color centers in CsBr —G. E. Gladyshev, V. P. Avdonin, and B. T. Plachenov. **37**(2), 206–7 (Aug. 1974)

Averbukh, B. B.—Profile of a luminescence pulse excited by a stationary pulse —B. B. Averbukh and R. I. Sokolovskii. **37**(5), 525–6 (Nov. 1974)

Averyanov, E. M.—Vibrational spectral of mixed naphthalene–β–naphthol molecular crystals —V. P. Fedorov, E. M. Averyanov, and V. V. Kind. **37**(3), 286–7 (Sep. 1974)

B

Babin, A. A.—Possibility of changing the frequency of dispersion matching by varying the angles between the directions of parametrically interacting waves —A. A. Babin, Yu. N. Belyaev, V. M. Fortus, and G. I. Freidman. **36**(3), 338–9 (Mar. 1974); CPM-7407X1024

Babkina, T. V.—Spectroscopy of Sm^{3+} in lanthanide and yttrium oxysulfides —T. V. Babkina, M. I. Gaiduk, L. N. Zorina, and N. P. Soshchin. **37**(4), 401–3 (Oct. 1974)

Bagaev, S. N.—Sharp resonances in a two–frequency gas laser —S. N. Bagaev, A. K. Dmitriev, and V. P. Chebotaev. **36**(3), 307–10 (Mar. 1974); CPM-7407X0993

Bakeev, A. A.—Determination of the total radiation of inert–gas plasmas —A. A. Bakeev, R. E. Rovinskii, and A. P. Sobolev. **37**(6), 668–9 (Dec. 1974)

Bakhshiev, N. G.—Effect of intermolecular interactions on the vibrational spectra of molecules. 12: Statistical character of the manifestation of intermolecular forces and rotational motion in the shape of vibrational–rotational bands of simple molecules in solution —G. I. Baranova, P. I. Zelikman, and N. G. Bakhshiev. **36**(1), 41–5 (Jan. 1974); CPM-7406X0401

—Effect of intermolecular interactions on the vibrational spectra of molecules. 13: Intensities and frequencies of the ir band of the antisymmetric stretching vibration of CS_2 —S. Kh. Akopyan, O. P. Girin, and N. G. Bakhshiev. **36**(2), 185–8 (Feb. 1974); CPM-7406X0545

—Intermolecular interactions and the stimulated emission spectra of activated liquid system. 3: —V. I. Studenov and N. G. Bakhshiev. **36**(2), 226–8 (Feb. 1974); CPM-7406X0586

—Relation between the observed and true absorption spectra of molecules in a condensed medium. 9: Effects of solvents on the intensity and shape of the electronic bands of dyes —V. M. Korovina and N. G. Bakhshiev. **36**(5), 510–1 (May 1974); CPM-7409X1438

—Intermolecular interactions and the spectra of molecules in multicomponent solutions. 4. The effect of ions on the electronic spectra of molecules in aqueous solutions —G. A. Malikina and N. G. Bakhshiev. **37**(1), 41–3 (Jul. 1974)

—Influence of the effective field of a light wave on the Raman spectra of condensed media. Part 3. Raman spectra at the liquid–vapor phase transition —V. M. Sidorenko, V. S. Libov, and N. G. Bakhshiev. **37**(4), 385–8 (Oct. 1974)

—Influence of the effective field of a light–wave on the Raman spectra of condensed media. 4: Fermi resonance in the spontaneous Raman spectra of carbon tetrachloride —V. M. Sidorenko, V. S. Libov, and N. G. Bakhshiev. **37**(6), 621–3 (Dec. 1974)

Baklanov, E. V.—Resonance interaction of unidirectional waves in a gas in a magnetic field —E. V. Baklanov. **36**(6), 687–9 (Jun. 1974); CPM-7410X1049

Balakhanov, V. Ya.—Resonance properties of a three–mirror multiple–beam interferometer —V. Ya. Balakhanov, V. K. Zhivotov, M. R. Krotov, A. R. Striganov, and M. D. Suleimenov. **36**(3), 331–4 (Mar. 1974); CPM-7407X1017

Baltrameyunas, R. A.—Dependence of the two–photon absorption coefficient on the thickness of CdS single crystals —R. A. Baltrameyunas, Yu. Yu. Vaitkus, Yu. K. Vishchakas, and V. I. Gavryushin. **36**(6), 714–5 (Jun. 1974); CPM-7410X1076

Bandura, A. V.—Use of molecular–orbital method for the calculation of impurity electronic levels in ionic crystals. 2: Electronic structure of the NaCl–Mg center —A. V. Bandura and R. A. Evarestov. **37**(3), 276–80 (Sep. 1974)

Barachevskii, V. A.—Photochromism of spiropyrans by laser photolysis —V. A. Murin, V. F. Mandzhikov, S. G. Kuzmin, and V. A. Barachevskii. **37**(2), 216–8 (Aug. 1974)

—Investigation of the nature of intermediate products of photochromic transformations of spiropyrans —V. A. Murin, V. F. Mandzhikov, and V. A. Barachevskii. **37**(6), 674–6 (Dec. 1974)

Baranets, I. V.—Birefringence in crystals with isotropic points and determination of oscillator strengths for excitons in CdS by the Rozhdestvenskii hook method —I. V. Baranets, A. Kh. Zilbershtein, and L. E. Solovev. **37**(2), 164–5 (Aug. 1974)

Baranova, G. I.—Effect of intermolecular interactions on the vibrational spectra of molecules. 12: Statistical character of the manifestation of intermolecular forces and rotational motion in the shape of vibrational–rotational bands of simple molecules in solution —G. I. Baranova, P. I. Zelikman, and N. G. Bakhshiev. **36**(1), 41–5 (Jan. 1974); CPM-7406X0401

Barbanel, I. S.—Optimization of the method of recording phase holograms of a set of diffuse and point objects —I. S. Barbanel and E. I. Krupitskii. **36**(4), 431–4 (Apr. 1974); CPM-7408X0213

Barkovskii, L. M.—Covariant description of light interaction with nonabsorbing crystalline plates —L. M. Barkovskii and F. I. Fedorov. **36**(6), 666–8 (Jun. 1974); CPM-7410X1028

Barta, Ch.—First– and second–order Raman spectra of Hg_2Cl_2, Hg_2Br_2, and Hg_2I_2 single crystals —Ch. Barta, A. A. Kaplyanskii, V. V. Kulakov, and Yu. F. Markov. **37**(1), 50–1 (Jul. 1974)

Bartenev, O. A.—Calculation of the efficiency of optical orientation and recording of nuclear polarization for Hg^{199} and Hg^{201} by 2537–Å radiation from a lamp with the natural mixture of isotopes —O. A. Bartenev and L. N. Novikov. **36**(4), 371–4 (Apr. 1974); CPM-7408X0153

—Lineshape of nuclear magnetic resonance of optically oriented Hg^{201} atoms —O. A. Bartenev, S. L. Votyakov, and L. N. Novikov. **36**(5), 493–4 (May 1974); CPM-7409X1421

Batygov, S. Kh.—Thermoluminescence of $Y_3Al_5O_{12}$–RE crystals — S. Kh. Batygov, Y. K. Voronko, B. I. Denker, and V. S. Radyukhin. **36**(1), 70–1 (Jan. 1974); CPM-7406X0430

Batyrev, V. A.—Tuning of organic lasers —B. I. Stepanov and V. A. Batyrev. **37**(1), 92–4 (Jul. 1974)

Beigman, I. L.—Effect of polarization of the atomic residue on excitation cross sections of optical transitions of alkali atoms —I. L. Beigman and V. P. Shevel'ko. **37**(4), 353–5 (Oct. 1974)

Bekhli, E. Yu.—Concentration quenching of luminescence in alcohol solutions of rhodamine dyes —L. V. Levshin, E. Yu. Bekhli, T. D. Slavnova, and V. I. Yuzhakov. **36**(3), 290–3 (Mar. 1974); CPM-7407X0976

Belikova, T. P.—Highly excited vibrational–rotational states of molecules by the method of selective losses in the resonator of a laser —T. P. Belikova, E. A. Sviridenkov, and A. F. Suchkov. **37** (4), 372–5 (Oct. 1974)

Belogurov, D. A.—Measurement of birefringence using the interference of polarized beams in crystals at a point $\Delta n = 0$ in the transparent region —A. V. Shaldin and D. A. Belogurov. **36**(3), 346 (Mar. 1974); CPM-7407X1032

—Method for measuring induced birefringence on anisotropic crystals in quasimonochromatic light —D. A. Belogurov and Yu. V. Shaldin. **36**(5), 545–6 (May 1974); CPM-7409X1473

Belous, V. M.—The theory of the photographic process. By C. E. Kenneth Mees and T. H. James. State Scientific Research Institute project on the Chemistry of Photography, Leningrad, 1973. 572 pp. —V. M. Belous. **37**(6), 687–8 (Dec. 1974)

Belousova, I. M.—I^{127} atom in a magnetic field —I. M. Belousova, B. D. Bobrov, V. M. Kiselev, V. N. Kurzenkov, and P. I. Krepostnov. **37**(1), 20–4 (Jul. 1974)

Belozerov, A. F.—A Method of holographic interferometry with discrete illumination of three-dimensional phase object —V. T. Chernykh and A. F. Belozerov. **36**(2), 238–9 (Feb. 1974)

—Production of holographic interferograms using cw and pulsed multimode lasers —A. F. Belozerov and I. S. Zeilikovich. **36**(4), 435–6 (Apr. 1974); CPM-7408X0217

Belyaev, Yu. N.—Possibility of changing the frequency of dispersion matching by varying the angles between the directions of parametrically interacting waves —A. A. Babin, Yu. N. Belyaev, V. M. Fortus, and G. I. Freidman. **36**(3), 338–9 (Mar. 1974); CPM-7407X1024

Berezhnoi, A. A.—Electrooptical effect in lead magnesium biobate crystals of pyrochlore structure —I. I. Adrianova, A. A. Berezhnoi, E. V. Nefedova, V. A. Pismennyi, Yu. V. Popov, and K. P. Skornyakova. **36**(5), 547–8 (May 1974); CPM-7409X1475

Berezin, V. I.—Vibrational spectra and geometrical structure of Aniline and Alpha, Beta, and Gamma Aminopyridines —V. I. Berezin and M. D. Elkin. **36**(5), 528–31 (May 1974); CPM-7409X1456

—Allowance for the influence of substitution on the force field of an aromatic ring —V. I. Berezin and M. D. Elkin. **37**(2), 136–8 (Aug. 1974)

Berkut, L. K.—Color centers in KCl–Ag crystals when silver is introduced by thermodiffusion —L. K. Berkut and M. E. Fonkich. **37**(4), 411–3 (Oct. 1974)

Berlin, A. A.—Optical absorption in the long-wavelength region and paramagnetism of polymers with conjugated bonds —A. A. Berlin, G. A. Vinogradov, and A. A. Ovchinnikov. **36**(3), 354–5 (Mar. 1974); CPM-7407X1040

Bersuker, I. B.—Rotational spectra of dipolar-unstable symmetrical polyatomic systems —I. B. Bersuker, I. Ya. Ogurtsov, and Yu. V. Shaparev. **36**(2), 181–4 (Feb. 1974); CPM-7406X0541

Bertsev, V. V.—Infrared spectra of a cryosystem: carbon tetrafluoride —R. Akhmedzhanov, V. V. Bertsev, M. O. Bulanin, and L. A. Zhigula. **36**(6), 709–10 (Jun. 1974); CPM-7410X1071

—Infrared spectra of cryosystems. 2: Sulfur hexafluoride —V. V. Bertsev, T. D. Kolomiitseva, and N. M. Tsyganenko. **37**(3), 263–4 (Sep. 1974)

Bessonova, T. S.—Radioluminescence of leucosapphire and ruby under electron excitation —T. S. Bessonova, M. P. Stanislavskii, V. I. Tumanov, and V. Ya. Khaimov-Malkov. **37**(2), 160–3 (Aug. 1974)

—Induced absorption and thermoluminescence of leucosapphire and ruby after electron irradiation —T. S. Bessonova, M. P. Stanislavskii, V. I. Tumanov, and V. Ya. Khaimov-Malkov. **37**(4), 398–400 (Oct. 1974)

Birman, A. Ya.—Theory of diffraction phenomena in a ring laser — A. Ya. Birman and A. F. Savushkin. **37**(2), 181–3 (Aug. 1974)

Blinov, L. M.—Stark effect in tetracene and perylene films —L. M. Blinov and N. A. Kirichenko. **37**(5), 513–5 (Nov. 1974)

Blok, A. S.—Theory and calculation of an image multiplier using an optical tunnel —A. S. Blok. **37**(2), 198–201 (Aug. 1974)

Bobkova, I. S.—Absorption in thin layers of thallium chloride —I. S. Bobkova and N. I. Ivanova. **36**(1), 90–2 (Jan. 1974); CPM-7406X0450

Bobovich, Ya. S.—Raman scattering in crystalline chlorine and bromine —I. V. Aleksandrov, Ya. S. Bobovich, A. V. Bortkevich, and M. Ya. Tsenter. **36**(1), 86–9 (Jan. 1974); CPM-7406X0446

—Raman spectra of metal phthalocyanines and their negative ions —I. V. Aleksandrov, Ya. S. Bobovich, V. G. Maslov, and A. N. Sidorov. **37**(3), 265–9 (Sep. 1974)

Bobrik, V. I.—Production of narrow resonances in a long iodine absorption cell —V. I. Bobrik, Yu. D. Kolominkov, and B. S. Mogilnitskii. **37**(3), 343 (Sep. 1974)

Bobrov, B. D.—I^{127} atom in a magnetic field —I. M. Belousova, B. D. Bobrov, V. M. Kiselev, V. N. Kurzenkov, and P. I. Krepostnov. **37** (1), 20–4 (Jul. 1974)

Bochkova, O. P.—Excitation of Ar II, Kr II, and Xe II ions by He and Ne metastable atoms in the afterglow of a glow discharge — O. P. Bochkova, I. A. Zubkova, and S. E. Frish. **36**(1), 16–8 (Jan. 1974); CPM-7406X0376

—Collisions of the second kind in the afterglow of a discharge in a mixture of argon and nitrogen —O. P. Bochkova, N. V. Chernysheva, and Yu. A. Tolmachev. **36**(1), 19–21 (Jan. 1974); CPM-7406X0379

—Population of highly excited mercury levels in the case of collision of two excited atoms in the $6^3P_{0,2}$ states —O. P. Bochkova, E. Gamarts, and Yu. A. Tolmachev. **36**(2), 150–1 (Feb. 1974); CPM-7406X0510

Bodunov, E. N.—Role of the anharmonicity of H_2O intramolecular vibrations in nonradiative deactivation of the excited states of rare earth ions —E. N. Bodunov and E. B. Sveshnikova. **36**(2), 196–9 (Feb. 1974); CPM-7406X0556

Bogachev, N. V.—Temperature and concentration dependence of the Raman spectra of liquids —N. V. Bogachev and O. G. Bokov. **36** (5), 516–8 (May 1974); CPM-7409X1444

—Allowance for the anisotropy of the polarizability of molecules in the theory of the intensity of the vibrational spectra of liquids. 3: Allowance for intermolecular interaction in the solution of the inverse electro-optical problem in carbon tetrachloride —N. V. Bogachev. **36**(6), 645–6 (Jun. 1974); CPM-7410X1007

—Allowance for intermolecular interaction in the solution of the direct electron-optical porblem for the chloroform molecule —N. V. Bogachev. **37**(2), 209–10 (Aug. 1974)

Bogdanov, V. L.—Near-threshold ruby laser under passive Q-switching —V. L. Bogdanov and V. P. Klochkov. **36**(2), 233–5 (Feb. 1974); CPM-7406X0593

—Fluorescence quenching of organic vapors by a radiation field —V. L. Bogdanov, V. P. Klochkov, and B. S. Neporent. **37**(2), 214–5 (Aug. 1974)

Bogdanova, I. P.—Charge exchange between helium ions and mercury atoms —I. P. Bogdanova, V. D. Marusin, and V. E. Yakhontova. **37**(4), 365–8 (Oct. 1974)

—Kinetics of filling of helium levels excited by an electron beam —I. P. Bogdanova, S. E. Erish, and V. I. Yakovleva. **37**(4), 462–4 (Oct. 1974)

Boiko, B. T.—Substructure and anomalous optical properties of islet condensates of silver —B. T. Boiko, V. V. Efimovskii, and V. I. Shkaleto. **37**(1), 112 (Jul. 1974)

Boitsov, V. F.—Frequency splitting of the oppositely traveling waves in a ring laser with a Gaussian diaphragm —V. F. Boitsov, T. A. Murina, and E. E. Fradkin. **36**(3), 311–4 (Mar. 1974); CPM-7407X0997

—Angular divergence of the field and minimum light spots in a ring cavity with a Gaussian diaphragm —V. F. Boitsov and T. A. Murina. **37**(1), 84–6 (Jul. 1974)

Bokhan, P. A.—Excitation of metastable levels in np^2 configurations —P. A. Bokhan and G. S. Kiyashkina. **36**(3), 262–4 (Mar. 1974); CPM-7407X0948

—Production of population inversion in np^2 configurations —P. A. Bokhan and G. S. Kiyashkina. **36**(6), 615–7 (Jun. 1974); CPM-7410X0977

Bokov, O. G.—Temperature and concentration dependence of the Raman spectra of liquids —N. V. Bogachev and O. G. Bokov. **36** (5), 516–8 (May 1974); CPM-7409X1444

—Allowance for the anisotropy of the polarizability of molecules in the theory of the intensity of the vibrational spectra of liquids. I. Intensity of Raman scattering in liquids —O. G. Bokov. **36**(5), 519–21 (May 1974); CPM-7409X1447

—Allowance for the anisotropy of the polarizability of molecules in the theory of the intensity of the vibrational spectra of liquids. 2: Breakdown of the correlation between the intensities of the Raman scattering of light in the liquid and gaseous phase —O. G. Bokov. **36**(6), 647–9 (Jun. 1974); CPM-7410X1009

Bokut, B. V.—Phenomenological theory of absorbing optically active media —B. V. Bokut, A. N. Serdyukov, and V. V. Shepelevich. 37 (1), 65–7 (Jul. 1974)

—Form of constitutive equations in optically active crystals —B. V. Bokut, A. N. Serdyukov, and F. I. Fedorov. 37(2), 166–8 (Aug. 1974)

Boldeskul, A. E.—Vibrational and rotational relaxation of molecules in several liquids on the basis of Raman spectra —A. E. Boldeskul, S. S. Esman, and V. E. Pogorelov. 37(5), 521–4 (Nov. 1974)

Boldeskul, I. E.—Spectral evidence and mechanisms of intermolecular interactions involving bipolar molecules —I. E. Boldeskul, G. A. Kalyagin, Yu. P. Makovetskii, and E. V. Ryltsev. 37(4), 459–60 (Oct. 1974)

Bolotnikova, T. N.—Some regularities in the vibrational structure of the fluorescence and absorption spectra of aromatic hydrocarbon molecules —T. N. Bolotnikova and O. F. Elnikova. 36(2), 168–71 (Feb. 1974); CPM-7406X0528

—Some relationships in the vibration structure of fluorescence and absorption spectra of aromatic–hydrocarbon molecules. 2: Nonperturbed transitions. —T. N. Bolotnikova and O. F. Elnikova. 36(4), 397–9 (Apr. 1974); CPM-7408X0179

—Some relationships in the vibrational structure of the fluorescence and absorption spectra of aromatic–hydrocarbon molecules. 3: Vibronically perturbed transitions —T. N. Bolotnikova and O. F. Elnikova. 36(5), 522–4 (May 1974); CPM-7409X1450

—Sensitized phosphorescence of naphthalene in toluene at 77K —T. N. Bolotnikova and L. K. Artemova. 37(4), 443–4 (Oct. 1974)

Bonch-Bruevich, A. M.—Observation of absorption in liquids by polarized light —A. M. Bonch-Bruevich, T. K. Razumova, and I. O. Starobogatov. 36(4), 403–4 (Apr. 1974); CPM-7408X0185

Bonchkovskii, V. I.—Temperature shift and broadening of Nd^{3+} ion levels in $CaWO_4$, $CaMoO_4$, and $PbMoO_4$ crystals —V. I. Bonchkovskii, B. I. Minkov, S. A. Sazonova, and B. S. Skorobogatov. 36(5), 608–9 (May 1974); CPM-7409X1536

Bondarev, A. F.—Absorption of aniline in the 751-cm^{-1} region near the critical solution point of an aniline–cyclohexane mixture —A. I. Mardaeva and A. F. Bondarev. 36(6), 713–4 (Jun. 1974); CPM-7410X1075

Bondarev, S. L.—Fluorescence quenching of chlorophyll and related compounds by nitro compounds —S. L. Bondarev and G. P. Gurinovich. 36(4), 400–2 (Apr. 1974); CPM-7408X0182

Bordovskii, G. A.—Resolving power of thermoluminescence, thermodepolarization, and thermostimulated conduction curves — G. A. Bordovskii. 37(6), 680–2 (Dec. 1974)

Borets, A. N.—Optical properties of films of metaselenoarsenites of alkali metals —A. V. Lada, V. A. Zuban, A. N. Borets, and M. I. Golovei. 37(3), 329–31 (Sep. 1974)

Borisevich, N. A.—Characteristics of the formation of infrared absorption bands of polyatomic vapor molecules —N. A. Borisevich and G. A. Zalesskaya. 37(1), 38–40 (Jul. 1974)

Borodin, V. M.—Doubling of excitation in the case of thermal collision of resonantly excited cesium atoms —V. M. Borodin and I. V. Komarov. 36(2), 145–9 (Feb. 1974); CPM-7406X0505

Bortkevich, A. V.—Raman scattering in crystalline chlorine and bromine —I. V. Aleksandrov, Ya. S. Bobovich, A. V. Bortkevich, and M. Ya. Tsenter. 36(1), 86–9 (Jan. 1974); CPM-7406X0446

Brazovskii, V. E.—Transient processes and statistical phenomena in a He–Ne laser with a slowly varying pump parameter —V. E. Brazovskii and G. G. Telegin. 36(4), 429–30 (Apr. 1974); CPM-7408X0211

Bryukhanov, V. N.—Reduction of the rotational Hamiltonian of molecules of the asymmetric rotor type —V. N. Bryukhanov and Yu. S. Makushkin. 36(1), 39–40 (Jan. 1974); CPM-7406X0399

—Energy operator for an effective semirigid rotator —V. N. Bryukhanov and Yu. S. Makushkin. 36(3), 271–3 (Mar. 1974); CPM-7407X0957

Bugnin, G. A.—Measurements of the index of refraction of low-absorbing thin films by the Abeles method —G. A. Bugnin. 37(1), 111–2 (Jul. 1974)

Bugrim, E. D.—Efficiency of the vibrational deactivation and quenching of an electronically excited I_2 molecule–E. D. Bugrim, S. N. Makrenko, and I. L. Tsikora. 37(6), 610–2 (Dec. 1974)

Buinov, G. N.—Anamorphotic properties of holographic optical elements —G. N. Buinov and K. S. Mustafin. 36(3), 343 (Mar. 1974); CPM-7407X1029

—The use of higher diffraction orders of holograms employed as optical components —G. N. Buinov, A. V. Lukin, and K. S. Mustafin. 37(1), 98–100 (Jul. 1974)

—Image multiplication using uniaxial holograms —G. N. Buinov, I. E. Kit, K. S. Mustafin, and M. I. Savrasova. 37(2), 196–7 (Aug. 1974)

Bulanin, M. O.—Infrared spectra of a cryosystem: carbon tetrafluoride —R. Akhmedzhanov, V. V. Bertsev, M. O. Bulanin, and L. A. Zhigula. 36(6), 709–10 (Jun. 1974); CPM-7410X1071

Bulygin, A. S.—Use of dispersion properties of the active medium of a laser to stabilize its emission frequency —V. P. Kapralov and A. S. Bulygin. 37(5), 568–9 (Nov. 1974)

Burenin, A. V.—Submillimeter spectrum and intermolecular parameters —A. V. Burenin, A. N. Valbov, L. I. Gershtein, E. N. Karyakin, A. F. Krupnov, A. V. Maslovskii, and S. M. Shchapin. 37(6), 676–8 (Dec. 1974)

Burkov, V. I.—Approximation formulas in the theory of gyrotropy. Part 1 —V. I. Burkov, V. V. Ivanov, V. A. Kizel, and G. S. Semin. 37(4), 420–2 (Oct. 1974)

Burshtein, M. L.—Lifetimes of the $^2P^0_1$ level of YbI and the $^2P^0_{3/2,1/2}$ level of YbII —M. L. Burshtein, Ya. F. Verolainen, V. A. Komarovskii, A. L. Osherovich , and N. P. Penkin. 37(4), 351–2 (Oct. 1974)

Bushuev, V. A.—Parametric scattering of electromagnetic radiation by plasmons —V. A. Bushuev. 36(2), 205–8 (Feb. 1974); CPM-7406X0565

Butenin, A. V.—Measurement of quantum yield of the intercombination conversion in phthalocyanine solutions —A. V. Butenin, B. Ya. Kogan, E. A. Lukyanets, and L. I. Molchanova. 37 (4), 395–7 (Oct. 1974)

—Supersensitive method for monitoring the otpical purity of liquids —A. V. Butenin and B. Ya. Kogan. 37(5), 573–4 (Nov. 1974)

Butusov, M. M.—Time-averaged holographic vibrometry; features of interference pattern recording —M. M. Butusov. 37(3), 301–3 (Sep. 1974)

Butyagin, O. F.—Characteristics of second-harmonic intensity distribution at the output of a linearly inhomogeneous medium — O. F. Butyagin, A. A. Kazakov, and E. A. Kolyushenko. 36(1), 112–5 (Jan. 1974); CPM-7406X0472

Bykovskii, Yu. A.—Excitation of thin-film waveguides by a holographic method —Yu. A. Bykovskii, A. V. Makovkin, and V. L. Smirnov. 37(5), 579–80 (Nov. 1974)

C

Chaika, M. P.—Determination of the Stark constant β_i for the $7^2P_{3/2}Cs^{133}$ level by the anticrossing method —G. I. Khvostenko, V. I. Khutorshchikov, and M. P. Chaika. 36(4), 475 (Apr. 1974); CPM-7408X0257

—Alignment of excited argon atoms in the positive column of a direct-current discharge —S. A. Kazantsev, A. Kisling, and M. P. Chaika. 36(5), 606–7 (May 1974); CPM-7409X1534

Chaikovskii, A. P.—Determination of polydisperse media parameters from intensity fluctuations of scattered radiation —A. P. Chaikovskii, A. Ya. Khairullina, and A. P. Ivanov. 36(5), 566–8 (May 1974); CPM-7409X1494

Chalyi, A. V.—Critical opalescence in a gravitational field —E. L. Lakoza and A. V. Chalyi. 37(1), 79–81 (Jul. 1974)

Chebotaev, V. P.—Sharp resonances in a two-frequency gas laser — S. N. Bagaev, A. K. Dmitriev, and V. P. Chebotaev. 36(3), 307–10 (Mar. 1974); CPM-7407X0993

Cherkasov, A. S.—Nature of the shift in the absorption and fluorescence spectra of some rhodamines on variation of their concentration in solution and of the acidity of the solvent —M. I. Snegov, I. I. Reznikova, and A. S. Cherkasov. 36(1), 55–7 (Jan. 1974); CPM-7406X0415

—Efficiency of liquid luminescence filter in a ruby laser —M. B. Levin, A. S. Cherkasov, and V. I. Shirokov. 36(5), 579–80 (May 1974)

Cherkunova, G. P.—Optical analog synthesizer —D. I. Mirovitskii, V. A. Torgovanov, and G. P. Cherkunova. 37(1), 101–3 (Jul. 1974)

Chernyavskii, A. F.—Depolarization of fluorescence during decay, using multichannel time analysis —L. V. Volodko, M. I. Demchuk, I. N. Kozlov, A. M. Sarzhevskii, and A. F. Chernyavskii. 37(4), 392–4 (Oct. 1974)

Chernykh, V. T.—A Method of holographic interferometry with discrete illumination of three-dimensional phase object —V. T. Chernykh and A. F. Belozerov. 36(2), 238–9 (Feb. 1974)

Chernysheva, N. V.—Collisions of the second kind in the afterglow of a discharge in a mixture of argon and nitrogen —O. P. Bochkova, N. V. Chernysheva, and Yu. A. Tolmachev. **36**(1), 19–21 (Jan. 1974); CPM-7406X0379

Chibisov, A. K.—Deactivation of triplet states and delayed fluorescence of cyanine dyes in sensitized photoexcitation —A. K. Chibisov, V. S. Kuzmin, and Yu. I. Lifanov. **36**(5), 537–40 (May 1974); CPM-7409X1465

Churilovskii, V. N.—Discrete deflector of polychromatic light —E. I. Golovanevskii, S. A. Konovalova, and V. N. Churilovskii. **36**(2), 245–6 (Feb. 1974); CPM-7406X0605

D

Dagis, R. S.—Fine structure of the terms of $1s^2\ 2s^{N_1}\ 2p^{N2}$ configurations —A. P. Vala and R. S. Dagis. **36**(4), 363–5 (Apr. 1974); CPM-7408X0145

Dalchenko, O. G.—Efficient polarization of laser radiation by a prism with small birefringence —Yu. A. Nestrizhenko, O. G. Dalchenko, A. P. Pyatikop, and V. V. Shevchenko. **36**(3), 321–3 (Mar. 1974); CPM-7407X1007

Danchinov, K. M.—Calculation and interpretation of the infrared spectra of methyl ethynyl ketone —K. M. Danchinov, D. N. Shigorin, and V. B. Pukhnarevich. **37**(6), 667–8 (Dec. 1974)

Danilevskii, N. P.—Excitation of CH_4 and C_2H_2 molecules by electron impact —V. T. Koppe, N. P. Danilevskii, A. G. Koval, and D. V. Pilipenko. **36**(3), 347–8 (Mar. 1974); CPM-7407X1033

Danilov, V. V.—Optical saturation during high-power excitation of luminescence in the vapors of complex organic compounds —V. V. Danilov, Yu. T. Mazurenko, and M. A. Ter-Pogosyan. **37**(6), 678–80 (Dec. 1974)

Dashevskaya, E. I.—Approximation of a sudden change in the type of coupling for intramolecular transitions —E. I. Dashevskaya, F. Masnou-Seeuws, R. McCarroll, and E. E. Nikitin. **37**(2), 119–22 (Aug. 1974)

Davydkin, V. A.—Two-photon ionization of H^+_2 —V. A. Davydkin and L. P. Rapoport. **36**(2), 141–4 (Feb. 1974); CPM-7406X0501

Delimarskii, Yu. K.—Temperature dependence of the line widths in the Raman spectra of crystalline sodium thiocyanate —V. Khorlbekk, Yu. K. Delimarskii, and S. A. Kirillov. **37**(4), 458–9 (Oct. 1974)

Demchuk, M. I.—Depolarization of fluorescence during decay, using multichannel time analysis —L. V. Volodko, M. I. Demchuk, I. N. Kozlov, A. M. Sarzhevskii, and A. F. Chernyavski. **37**(4), 392–4 (Oct. 1974)

Demchuk, Yu. S.—New data on the quasilinear fluorescence spectrum of anthracene vapor —S. O. Mirumyants, E. A. Vanbynkov, Yu. S. Demchuk, and Yu. S. Nagulin. **36**(1), 52–4 (Jan. 1974); CPM-7406X0412

Demekhin—The effect of 4f electrons on the structure of x-ray spectra —Demekhin and T. M. Poltinnikova. **36**(4), 386–8 (Apr. 1974); CPM-7408X0168

Demikhov, Yu. N.—Influence of the transfer of electronic energy on the luminescence of styrene monomer containing a trace of polystyrene —Yu. N. Demikhov, A. N. Faidysh, and V. N. Yashchuk. **37**(4), 389–91 (Oct. 1974)

Deminov, R. G.—Stimulated Mandelshtam–Brillouin scattering in paramagnetic crystals under conditions of acoustic paramagnetic resonance (backward scattering) —R. G. Deminov. **37**(4), 418–9 (Oct. 1974)

Demura, A. V.—Nature of the red shift of hydrogen lines in a dense plasma —A. V. Demura and G. V. Sholin. **36**(6), 711 (Jun. 1974); CPM-7410X1073

Denker, B. I.—Thermoluminescence of $Y_3\ Al_5\ O_{12}$–RE crystals —S. Kh. Batygov Y. K. Voronko, B. I. Denker, and V. S. Radyukhin. **36**(1), 70–1 (Jan. 1974); CPM-7406X0430

Dmitriev, A. K.—Sharp resonances in a two-frequency gas laser —S. N. Bagaev, A. K. Dmitriev, and V. P. Chebotaev. **36**(3), 307–10 (Mar. 1974); CPM-7407X0993

Dmitryuk, A. V.—Cooperative luminescence in glasses activated with Yb^{3+} —A. V. Dmitryuk, G. O. Karapetyan, V. I. Kosyakov, B. M. Makushkin, and V. A. Shirokshin. **37**(3), 335–6 (Sep. 1974)

Dobrolezh, B. V.—Measurement of relative oscillator strengths for transitions of subordinate series in rubidium and cesium —A. N. Klyucharev, V. Yu. Sepman, and B. V. Dobrolezh. **37**(5), 470–1 (Nov. 1974)

Dononova, N. Ya.—Absorption spectra of bases of nucleic acids (110–300 nm) and their luminescence excited in the vacuum ultraviolet region —I. P. Vinogradov, V. V. Zemskikh, and N. Ya. Dononova. **36**(3), 344–5 (Mar. 1974); CPM-7407X1030

Dovgopol, S. P.—Line shape for a nuclear magnetic resonance of an optically oriented atomic system in a nonuniform radiofrequency field —S. L. Votyakov, S. P. Dovgopol, L. N. Novikov, and V. P. Putyrskii. **36**(6), 611–4 (Jun. 1974); CPM-7410X0973

Drukarev, G. F.—Electromagnetic radiation due to symmetric ion–atom collisions —G. F. Drukarev and A. A. Mikhailov. **37**(2), 220–1 (Aug. 1974)

Druzhinin, V. V.—The faraday effect in strong magnetic fields —V. V. Druzhinin and O. M. Tatsenko. **36**(4), 426–8 (Apr. 1974); CPM-7408X0208

Dubnishchev, Yu. N.—Laser doppler velocimeter with compensation of additive components of interference and noise —A. I. Vatrushkin, Yu. N. Dubnishchev, and T. Ya. Popova. **36**(6), 690–1 (Jun. 1974); CPM-7410X1052

Dudkin, V. S.—Intercombination conversion in rhodamine 6G solutions —E. P. Shebanin, V. S. Dudkin, and B. Ya. Kogan. **37**(5), 570–1 (Nov. 1974)

Duisebaeva, Zh.—Optical properties of palladium in the visible and near ir regions of the spectrum —Zh. Duisebaeva, M. I. Korsunskii, and G. P. Motulevich. **37**(1), 82–3 (Jul. 1974)

Dunina, A. A.—Two types of luminescence centers in CsI–Tl —V. B. Gutan, L. M. Shamovskii, A. A. Dunina, and B. S. Gorobets. **37**(4), 407–10 (Oct. 1974)

Dvornikov, I. V.—Plasma production by photoionization of a gas —I. V. Dvornikov, L. V. Kulagina, I. V. Podmoshenskii, and A. V. Yakovleva. **36**(1), 22–3 (Jan. 1974); CPM-7406X0382

Dyubko, S. F.—Submillimeter laser emission of CH_3I molecules excited by CO_2 —V. A. Svich, S. F. Dyubko, V. A. Svich, and L. D. Fesenko. **37**(1), 118 (Jul. 1974)

Dzhagarov, B. M.—Laser photolysis of porphyrin complexes with transitions metal ions —B. M. Dzhagarov, G. P. Gurinovich, and A. M. Simonov. **37**(2), 146–8 (Aug. 1974)

Dzyubenko, M. I.—Gain in the output efficiency of lasers based on organic dye solutions —M. I. Dzyubenko, A. Ya. Matveev, and I. G. Naumenko. **37**(4), 423–5 (Oct. 1974)

E

Efimovskii, V. V.—Substructure and anomalous optical properties of islet condensates of silver —B. T. Boiko, V. V. Efimovskii, and V. I. Shkaleto. **37**(1), 112 (Jul. 1974)

Efremenkova, L. Ya.—Parameters of loosely bound molecular ions —L. Ya. Efremenkova, A. A. Radsig, and B. M. Smirnov. **36**(1), 35–8 (Jan. 1974); CPM-7406X0395

Efremov, Yu. M.—The $\lambda = 4600$-Å band in a spectrum produced by pulsed photolysis of chromium carbonyl —Yu. M. Efremov, A. N. Samoilova, and L. V. Gurvich. **36**(4), 381–2 (Apr. 1974); CPM-7408X0163

Egorov, A. I.—Spectral intensity of continuous x-radiation from a massive target —A. I. Egorov and V. P. Afonin. **37**(1), 113–4 (Jul. 1974)

Egorov, V. S.—Observation of a dissociative recombination of a molecular helium ion in the early afterflow of a discharge —V. S. Egorov, A. A. Pastor, V. V. Samokhvalov, and A. A. Solovev. **37**(5), 563–5 (Nov. 1974)

Egorova, G. A.—Ellipsometry of ultrathin transparent films —G. A. Egorova, N. S. Ivanova, E. V. Potapov, and A. V. Rakov. **36**(4), 449–51 (Apr. 1974); CPM-7408X0231

Eletskii, A. V.—Photodissociation and photorecombination emission of diatomic molecules —A. V. Eletskii, B. M. Smirnov, and G. V. Shlyapnikov. **36**(6), 630–4 (Jun. 1974); CPM-7410X0992

—Drift of excited neon atoms in a discharge —V. I. Vinogradov and A. V. Eletskii. **37**(5), 486–8 (Nov. 1974)

Elkin, M. D.—Vibrational spectra and geometrical structure of Aniline and Alpha, Beta, and Gamma Aminopyridines —V. I. Berezin and M. D. Elkin. **36**(5), 528–31 (May 1974); CPM-7409X1456

—Allowance for the influence of substitution on the force field of an aromatic ring —V. I. Berezin and M. D. Elkin. **37**(2), 136–8 (Aug. 1974)

Elnikova, O. F.—Some regularities in the vibrational structure of the fluorescence and absorption spectra of aromatic hydrocarbon molecules —T. N. Bolotnikova and O. F. Elnikova. **36**(2), 168–71 (Feb. 1974); CPM-7406X0528

—Some relationships in the vibration structure of fluorescence and absorption spectra of aromatic–hydrocarbon molecules. 2: Nonperturbed transitions. —T. N. Bolotnikova and O. F. Elnikova. 36(4), 397–9 (Apr. 1974); CPM-7408X0179

—Some relationships in the vibrational structure of the fluorescence and absorption spectra of aromatic–hydrocarbon molecules. 3: Vibronically perturbed transitions —T. N. Bolotnikova and O. F. Elnikova. 36(5), 522–4 (May 1974); CPM-7409X1450

El Shazli, A. F. A.—Ellipsometric method for measuring optical constants and thickness of thin absorbing films on metal substrates —I. N. Shklyarevskii, A. F. A. El Shazli, R. G. Yarovaya, and V. P. Kostyuk. 36(1), 116–8 (Jan. 1974); CPM-7406X0476

Erish, S. E.—Kinetics of filling of helium levels excited by an electron beam —I. P. Bogdanova, S. E. Erish, and V. I. Yakovleva. 37(4), 462–4 (Oct. 1974)

Ermakov, D. S.—A distinctive feature of the absorption function of an isolated spectral line with a dispersion profile —D. S. Ermakov. 36(2), 136–7 (Feb. 1974); CPM-7406X0496

Ermolaev, V. L.—Mechanism of energy transfer from ketones to rare earth ions. 4: effect of solvent and temperature. Intramolecular and diffusion transfer —E. B. Sveshnikova, V. F. Morina, and V. L. Ermolaev. 36(4), 421–5 (Apr. 1974); CPM-7408X0203

—Triplet–triplet energy transfer involving fluorinated aromatic compounds —S. S. Tibilov and V. L. Ermolaev. 36(6), 715–6 (Jun. 1974); CPM-7410X1077

—Effect of complex formation on nonradiative energy transfer between ions in liquid solutions —V. P. Gruzdev and V. L. Ermolaev. 37(6), 629–32 (Dec. 1974)

Ershov, I. V.—Investigation of an interferometer with a diffraction grating to study streamline flow around models in shock–wave tunnels —L. A. Vasilev and I. V. Ershov. 36(6), 695–8 (Jun. 1974); CPM-7410X1057

Ershov, N. N.—Luminescence and color centers in LiF single crystals under x–ray excitation —N. N. Ershov, G. M. Zakharov, T. I. Nikitinskaya, and P. A. Rodnyi. 36(1), 122–3 (Jan. 1974); CPM-7406X0482

Esman, S. S.—Vibrational and rotational relaxation of molecules in several liquids on the basis of Raman spectra —A. E. Boldeskul, S. S. Esman, and V. E. Pogorelov. 37(5), 521–4 (Nov. 1974)

Evarestov, R. A.—Use of molecular–orbital method for the calculation of impurity electronic levels in ionic crystals. 2: Electronic structure of the NaCl–Mg center —A. V. Bandura and R. A. Evarestov. 37(3), 276–80 (Sep. 1974)

Evseev, I. V.—Light echo in a nonuniform external field —A. I. Alekseev and I. V. Evseev. 36(6), 692–4 (Jun. 1974); CPM-7410X1054

F

Faidysh, A. N.—Influence of the transfer of electronic energy on the luminescence of styrene monomer containing a trace of polystyrene —Yu. N. Demikhov, A. N. Faidysh, and V. N. Yashchuk. 37(4), 389–91 (Oct. 1974)

Fainberg, B. D.—Effect of strong radiation on a quantum system with degenerate levels —P. A. Apanasevich and B. D. Fainberg. 36(1), 1–3 (Jan. 1974); CPM-7406X0361

—Nonlinear polarization of quantum systems with degenerate transitions —B. D. Fainberg. 36(6), 682–6 (Jun. 1974); CPM-7410X1044

Farafonov, V. G.—Aberrations in cavities with misadjusted mirrors —S. Yu. Slavyanov and V. G. Farafonov. 37(1), 117–8 (Jul. 1974)

Fedchuk, A. P.—Effect of sorption of water vapor and of vapors of certain organic substances on the electroluminescence spectrum of aluminum–oxide films —A. P. Fedchuk and V. V. Mikho. 36(6), 705 (Jun. 1974); CPM-7410X1067

—Adsorption nature of associative luminescence centers in aluminum oxide —A. P. Fedchuk and V. V. Mikho. 37(5), 569–70 (Nov. 1974)

Fedorov, D. L.—Spectroscopic study of the stabilization of the sphalerite structure in ZnS–Cu single crystals —L. G. Suslina and D. L. Fedorov. 36(4), 408–10 (Apr. 1974); CPM-7408X0190

Fedorov, F. I.—Covariant description of light interaction with nonabsorbing crystalline plates —L. M. Barkovskii and F. I. Fedorov. 36(6), 666–8 (Jun. 1974); CPM-7410X1028

—Form of constitutive equations in optically active crystals —B. V. Bokut, A. N. Serdyukov, and F. I. Fedorov. 37(2), 166–8 (Aug. 1974)

Fedorov, V. P.—Vibrational spectral of mixed naphthalene–β–naphthol molecular crystals —V. P. Fedorov, E. M. Averyanov, and V. V. Kind. 37(3), 286–7 (Sep. 1974)

—Spectroscopic manifestation of orientational disordering in the p–bromochlorobenzene molecular crystal in the region of the lowest singlet–singlet transition —A. Ya. Korets, V. P. Fedorov, and A. I. Shtain. 37(5), 562–3 (Nov. 1974)

Fedorov, Yu. M.—Electromagnetic wave propagation in a magnetically ordered medium with a regular magnetic inhomogeneity —N. M. Salanskii and Yu. M. Fedorov. 37(6), 633–4 (Dec. 1974)

Fedotov, G. A.—Some possible mechanisms for molecular influence on the properties of an atomic–molecular plasma —A. M. Shukhtin and G. A. Fedotov. 37(2), 219–20 (Aug. 1974)

Feofilaktova, T. V.—Investigation of several characteristics of an He —Cd laser —F. A. Korolev, A. I. Odintsov, T. V. Feofilaktova, and N. I. Kalinovskaya. 37(6), 669–70 (Dec. 1974)

Feofilov, P. P.—Fourth all–union conference on spectroscopy of activated crystals —A. I. Ryskin and P. P. Feofilov. 37(6), 690–1 (Dec. 1974)

Fesenko, L. D.—Submillimeter laser emission of CH_3I molecules excited by CO_2 —V. A. Svich, S. F. Dyubko, V. A. Svich, and L. D. Fesenko. 37(1), 118 (Jul. 1974)

Fesik, V. V.—Separation of the contributions from universal intermolecular interactions and intermolecular hydrogen bonding in the observed shifts of electronic bands. 4: Electronic transitions of different character ($n\rightarrow\pi^*$ and $\pi\rightarrow\pi^*$) —T. G. Meister, G. Ya. Zelikina, L. V. Golovina, and V. V. Fesik. 37(5), 516–20 (Nov. 1974)

Finkelshtein, A. I.—Calculation of the vibrational spectra of cyanuric and trithiocyanuric acids —B. Ya. Shtenberg, Yu. I. Mushkin, and A. I. Finkelshtein. 36(5), 525–7 (May 1974); CPM-7409X1453

Fogel, Ya. M.—Continuous spectrum in the vacuum ultraviolet region emitted by a supersonic argon jet excited by an electron beam —E. T. Verkhovtseva, V. I. Yaremenko, A. E. Ovechkin, and Ya. M. Fogel. 37(2), 126–8 (Aug. 1974)

Fonkich, M. E.—Color centers in KCl–Ag crystals when silver is introduced by thermodiffusion —L. K. Berkut and M. E. Fonkich. 37(4), 411–3 (Oct. 1974)

Fortus, V. M.—Possibility of changing the frequency of dispersion matching by varying the angles between the directions of parametrically interacting waves —A. A. Babin, Yu. N. Belyaev, V. M. Fortus, and G. I. Freidman. 36(3), 338–9 (Mar. 1974); CPM-7407X1024

Fotiadi, A. E.—Low–frequency beats in the emission of a cw argon laser in a magnetic field —A. E. Fotiadi and S. A. Fridrikhov. 36 (2), 247–8 (Feb. 1974); CPM-7406X0607

Fradkin, E. E.—Frequency splitting of the oppositely traveling waves in a ring laser with a Gaussian diaphragm —V. F. Boitsov, T. A. Murina, and E. E. Fradkin. 36(3), 311–4 (Mar. 1974); CPM-7407X0997

—Unsynchronized two–mode lasing in a gas ring laser —V. A. Sokolov and E. E. Fradkin. 36(3), 348–9 (Mar. 1974); CPM-7407X1034

—Diffraction splitting of the frequencies of oppositely traveling waves in a gas ring laser —T. V. Guseva and E. E. Fradkin. 36(5), 572–5 (May 1974); CPM-7409X1500

Frankevich, E. L.—Modulation of the quantum yield of the fluorescence of excited complexes by a weak magnetic field —E. L. Frankevich, B. M. Rumyantsev, and V. I. Lesin. 37(2), 215–6 (Aug. 1974)

Freidman, G. I.—Possibility of changing the frequency of dispersion matching by varying the angles between the directions of parametrically interacting waves —A. A. Babin, Yu. N. Belyaev, V. M. Fortus, and G. I. Freidman. 36(3), 338–9 (Mar. 1974); CPM-7407X1024

Fridrikhov, S. A.—Low–frequency beats in the emission of a cw argon laser in a magnetic field —A. E. Fotiadi and S. A. Fridrikhov. 36(2), 247–8 (Feb. 1974); CPM-7406X0607

Frikrikhov, S. A.—Experimental study of reactive oscillations in the discharge gap of a He–Ne laser —V. E. Privalov, S. A. Frikrikhov, and G. A. Shishkin. 36(5), 576–8 (May 1974); CPM-7409X1504

Frish, S. E.—Excitation of Ar II, Kr II, and Xe II ions by He and Ne metastable atoms in the afterglow of a glow discharge —O. P. Bochkova, I. A. Zubkova, and S. E. Frish. 36(1), 16–8 (Jan. 1974); CPM-7406X0376

—17th International collogquium on spectroscopy —S. E. Frish. 36 (3), 360–1 (Mar. 1974); CPM-7407X1046

—Optics in the academy of sciences (on the 250th anniversary of the academy of sciences of the USSR —S. E. Frish. **36**(5), 477–81 (May 1974); CPM-7409X1405

Furashov, N. I.—Study of some absorption lines of the water-vapor rotational spectrum in the 100–600 μm region —B. A. Sverdlov and N. I. Furashov. **36**(5), 503–6 (May 1974); CPM-7409X1431

Furer, V. L.—Calculation of the planar vibrations of the skeleton of polymeric cyclicmolecules of the polyacene type —L. I. Maklakov and V. L. Furer. **37**(3), 260–2 (Sep. 1974)

Furman, Sh. A.—Relationships characterizing the optical properties of dielectric narrow-band interference filters —Sh. A. Furman. **36** (2), 242–4 (Feb. 1974); CPM-7406X0602

—Synthesis of multilayer optical coatings —Sh. A. Furman and E. G. Stolov. **36**(3), 340–2 (Mar. 1974); CPM-7407X1026

—Synthesis of multilayer optical coatings for the case when the specified spectral characteristic has discontinuities —E. G. Stolov and Sh. A. Furman. **36**(6), 702–4 (Jun. 1974); CPM-7410X1064

—Factors that determine the peculiarities in the variations of the optical characteristics of narrowband interference filters —Sh. A. Furman and M. D. Levina. **37**(4), 434–6 (Oct. 1974)

G

Gaiduk, M. I.—Spectroscopy of Sm^{3+} in lanthanide and yttrium oxysulfides —T. V. Babkina, M. I. Gaiduk, L. N. Zorina, and N. P. Soshchin. **37**(4), 401–3 (Oct. 1974)

Gainer, A. V.—Resolving power of a nonlinear image converter in critical synchronism —A. V. Gainer, V. V. Lebedev, and S. I. Marennikov. **37**(4), 428–30 (Oct. 1974)

Gaisin, V. A.—Absorption and luminescence spectra of the 4152-Å system in diamond crystals using the modulation technique —D. S. Nedzvetskii and V. A. Gaisin. **36**(1), 123–5 (Jan. 1974); CPM-7406X0483

Galaktionova, N. M.—Continuous Nd:glass laser —N. M. Galaktionova, G. A. Garkavi, V. S. Zubkova, A. A. Mak, L. N. Soms, and M. M. Khaleev. **37**(1), 90–1 (Jul. 1974)

—Single mode cw Nd^{3+}: YAG laser —N. M. Galaktionova, V. V. Gershun, and A. A. Mak. **37**(2), 184–5 (Aug. 1974)

Galpern, A. D.—Investigation of geometrical distortions produced by a television system for receiving and transmitting holograms —A. D. Galpern and A. A. Paramonov. **37**(3), 304–7 (Sep. 1974)

—Signal-to-noise ratio and contrast in the image by hologram storage —A. D. Galpern. **37**(5), 550–3 (Nov. 1974)

Galtsev, A. P.—Determination of a correlation function for frequency fluctuations from absorption measurements in far wings of the lines —A. P. Galtsev. **36**(2), 178–80 (Feb. 1974); CPM-7406X0538

—Profiles of spectral lines —A. P. Galtsev. **37**(3), 238–41 (Sep. 1974)

Gamarts, E.—Population of highly excited mercury levels in the case of collision of two excited atoms in the 6^3P_{012} states —O. P. Bochkova, E. Gamarts, and Yu. A. Tolmachev. **36**(2), 150–1 (Feb. 1974); CPM-7406X0510

Gamosov, L. V.—Ultra violet spectra of some zinc sulfide polytypes and crystals with stacking faults —N. K. Morozova, L. V. Gamosov, and E. E. Lakin. **37**(6), 639–42 (Dec. 1974)

Ganiev, F.—Rayleigh line shape and width of aniline, quinoline, and other liquids as function of temperature —F. Kh. Tukhvatullin, F. Ganiev, A. K. Atakhodzhaev, and I. P. Kleiner. **37**(2), 144–5 (Aug. 1974)

Ganin, V. A.—Spin–orbital coupling and the relative intensities of forbidden transitions in I_2 and IX molecules —V. S. Yarunin and V. A. Ganin. **37**(5), 495–7 (Nov. 1974)

—Band structure and optical properties of fluorite-type crystals. Part 3 —N. V. Starostin and V. A. Ganin. **37**(6), 635–8 (Dec. 1974)

Garga, I. I.—Electron impact excitation of alkaline earth atoms. III: Strontium (triplets) —I. S. Aleksakhin, I. I. Garga, I. P. Zapesochnii, and V. P. Starodub. **37**(1), 10–3 (Jul. 1974)

—Electron impact excitation of alkaline earth atoms. IV: Calcium —I. I. Garga, I. S. Aleksakhin, V. P. Starodub, and I. P. Zapesochnii. **37**(5), 482–5 (Nov. 1974)

Garkavi, G. A.—Continuous Nd:glass laser —N. M. Galaktionova, G. A. Garkavi, V. S. Zubkova, A. A. Mak, L. N. Soms, and M. M. Khaleev. **37**(1), 90–1 (Jul. 1974)

Gavryushin, V. I.—Dependence of the two-photon absorption coefficient on the thickness of CdS single crystals —R. A. Baltrameyunas, Yu. Yu. Vaitkus, Yu. K. Vishchakas, and V. I. Gavryushin. **36**(6), 714–5 (Jun. 1974); CPM-7410X1076

Gerasimov, G. N.—Step-by-step excitation in helium —G. N. Gerasimov and G. P. Startsev. **36**(5), 487–8 (May 1974); CPM-7409X1415

Gershtein, L. I.—Submillimeter spectrum and intermolecular parameters —A. V. Burenin, A. N. Valbov, L. I. Gershtein, E. N. Karyakin, A. F. Krupnov, A. V. Maslovskii, and S. M. Shchapin. **37**(6), 676–8 (Dec. 1974)

Gershun, V. V.—Single mode cw Nd^{3+}: YAG laser —N. M. Galaktionova, V. V. Gershun, and A. A. Mak. **37**(2), 184–5 (Aug. 1974)

Ginet, G. A.—The manifestation of structural defects in the infrared spectrum of crystalline naphthalene —G. A. Ginet and A. V. Sechkarev. **36**(3), 304–6 (Mar. 1974); CPM-7407X0990

Girin, O. P.—Effect of intermolecular interactions on the vibrational spectra of molecules. 13: Intensities and frequencies of the ir band of the antisymmetric stretching vibration of CS_2 —S. Kh. Akopyan, O. P. Girin, and N. G. Bakhshiev. **36**(2), 185–8 (Feb. 1974); CPM-7406X0545

Gladushchak, V. I.—Variation in the contour of a resonance line as a function of plasma composition —V. I. Gladushchak, V. V. Skidan, and E. Ya. Shreider. **37**(6), 598–600 (Dec. 1974)

Gladyshev, G. E.—Electron color centers in CsBr —G. E. Gladyshev, V. P. Avdonin, and B. T. Plachenov. **37**(2), 206–7 (Aug. 1974)

Glauberman, A. E.—Optical activity and optical and magnetooptical studies of NaCl crystals containing colloid centers —V. V. Golubstov, A. E. Glauberman, and A. B. Goldenberg. **36**(1), 96–8 (Jan. 1974); CPM-7406X0456

Gleizer, A. I.—Filling of high-excitation states of cesium atoms —V. S. Vorobev and A. I. Gleizer. **37**(4), 450 (Oct. 1974)

Godnev, I. N.—Arbitrariness in the selection of symmetry coordinates —I. N. Godnev, V. N. Vinogradova, and M. I. Godneva. **37**(3), 253–6 (Sep. 1974)

Godneva, M. I.—Arbitrariness in the selection of symmetry coordinates —I. N. Godnev, V. N. Vinogradova, and M. I. Godneva. **37**(3), 253–6 (Sep. 1974)

Goikman, V. Kh.—Double-beam three-plate interferometer with polarizing elements —V. Kh. Goikman, G. M. Izakson, and V. A. Moskalev. **36**(1), 121–2 (Jan. 1974); CPM-7406X0481

Goldenberg, A. B.—Optical activity and optical and magnetooptical studies of NaCl crystals containing colloid centers —V. V. Golubstov, A. E. Glauberman, and A. B. Goldenberg. **36**(1), 96–8 (Jan. 1974); CPM-7406X0456

Golovach, G. P.—Mueller matrices for a system of identical plane-parallel layers. Part 1 —V. D. Tronko and G. P. Golovach. **37**(2), 174–6 (Aug. 1974)

—Mueller matrices for a system of identical plane-parallel layers. 2 — V. D. Tronko and G. P. Golovach. **37**(3), 292–4 (Sep. 1974)

—Transmission and reflection of light by a magnetooptically active plane-parallel inclined plate. Mueller matrix —V. D. Tronko and G. P. Golovach. **37**(5), 547–9 (Nov. 1974)

Golovanevskii, E. I.—Discrete deflector of polychromatic light —E. I. Golovanevskii, S. A. Konovalova, and V. N. Churilovskii. **36**(2), 245–6 (Feb. 1974); CPM-7406X0605

Golovei, M. I.—Optical properties of films of metaselenoarsenites of alkali metals —A. V. Lada, V. A. Zuban, A. N. Borets, and M. I. Golovei. **37**(3), 329–31 (Sep. 1974)

Golovina, L. V.—Separation of the contributions from universal intermolecular interactions and intermolecular hydrogen bonding in the observed shifts of electronic bands. 4: Electronic transitions of different character ($n\rightarrow\pi^*$ and $\pi\rightarrow\pi^*$) —T. G. Meister, G. Ya. Zelikina, L. V. Golovina, and V. V. Fesik. **37**(5), 516–20 (Nov. 1974)

Golubstov, V. V.—Optical activity and optical and magnetooptical studies of NaCl crystals containing colloid centers —V. V. Golubstov, A. E. Glauberman, and A. B. Goldenberg. **36**(1), 96–8 (Jan. 1974); CPM-7406X0456

Gorban, N. Ya.—Optical absorption of Ni–Fe alloys —N. Ya. Gorban and V. S. Stashchuk. **37**(2), 202–3 (Aug. 1974)

Gordon, E. B.—Luminescence of solid aromatic substances in active nitrogen —V. D. Shatrov, O. F. Pugachev, and E. B. Gordon. **36** (4), 413–5 (Apr. 1974); CPM-7408X0195

Gorobets, B. S.—Two types of luminescence centers in CsI–Tl —V. B. Gutan, L. M. Shamovskii, A. A. Dunina, and B. S. Gorobets. **37**(4), 407–10 (Oct. 1974)

Gorokhov, Yu. A.—Thermal effects on parametric light scattering in $LiNbO_3$ —Yu. A. Gorokhov, D. P. Krindach, V. S. Maiorov, and V. S. Shevera. **36**(5), 587–9 (May 1974); CPM-7409X1515

—Effect of thermoelastic stresses on the optical indicatrix of a uniaxial crystal —A. A. Vigasin, Yu. A. Gorokhov, D. P. Krindach, and A. P. Sukhorukov. **37**(6), 654–5 (Dec. 1974)

Goryaga, O. G.—Transient radiation of a current-carrying charged cluster crossing a plane-parallel ferrodielectric plate —A. B. Kukanov, G. A. Lavrova, and O. G. Goryaga. 37(4), 454–5 (Oct. 1974)

Gradyushko, A. T.—Internal heavy-atom effect in porphyrin molecules. 2: Halogen derivatives of deuteroporphyrin IX—A. T. Gradyushko, D. T. Kozhich, K. N. Sokolev, and M. P. Tsvirko. 37 (5), 510–2 (Nov. 1974)

Grebenshchikov, D. M.—Effect of polymorphism of N-paraffin crystals on the luminescence of additive coronene molecules —D. M. Grebenshchikov, N. A. Kovizhnykh, and S. A. Kozlov. 37(2), 155–7 (Aug. 1974)

Grebneva, V. L.—Electronic and vibrational states of biphenyl-based molecules. 3: Determination of the polarization of the electronic and electronic-vibrational transitions of the carbazole and dibenzofuran molecules from the hypochromy in their crystal spectra —V. L. Grebneva, L. A. Nakhimovskaya, K. R. Popov, L. V. Smirnov, and G. V. Sukhina. 37(5), 504–6 (Nov. 1974)

—Electronic and vibrational states of molecules based on biphenyl. 4: classification of the electronic transitions —K. R. Popov, L. V. Smirnov, V. L. Grebneva, and L. A. Nakhimovskaya. 37(6), 613–6 (Dec. 1974)

Grechushnikov, B. N.—Configuration of $3d^3$ electrons in a trigonal field. Spectra of Fe^{3+} ions in a demantoid garnet and corundum — T. F. Veremeichik, B. N. Grechushnikov, I. N. Kalinkina, and D. T. Sviridov. 36(6), 658–61 (Jun. 1974); CPM-7410X1020

Gribov, L. A.—Determination of the potential surface and analysis of the anharmonic vibrations of the water molecule —L. A. Gribov and G. V. Khovrin. 36(3), 274–6 (Mar. 1974); CPM-7407X0960

—Calculation of the infrared absorption spectrum of ethylamine —L. A. Gribov, M. P. Noskova, and I. N. Krupennikova. 36(4), 466–7 (Apr. 1974); CPM-7408X0248

—Calculation of the infrared spectral absorption curve of poly(ethylene glycol adipate) —L. A. Gribov, I. V. Zhitlova, and O. I. Kondratov. 36(5), 532–4 (May 1974); CPM-7409X1460

—Calculation of the potential surfaces of the H_2S and CO_2 molecules —L. A. Gribov and G. V. Khovrin. 36(6), 642–4 (Jun. 1974); CPM-7410X1004

—Calculation and interpretation of the infrared spectra of ortho-and meta-dicarboclosododecaboranes —T. P. Klimova, L. A. Gribov, and V. I. Stanko. 36(6), 650–3 (Jun. 1974); CPM-7410X1012

—Theory of vibrations of three-dimensional ordered structures. Polymer crystals —L. A. Gribov. 37(1), 35–7 (Jul. 1974)

—Analysis of the anharmonic vibrations and potential surface of the ammonia molecule —L. A. Gribov and G. V. Khovrin. 37(3), 257–9 (Sep. 1974)

Grigoreva, V. S.—Vibration spectrum and optical constants of $ZnGep_2$ single crystals—Yu. F. Markov, V. S. Grigoreva, B. S. Zadokhin, and T. V. Rybakova. 36(1), 93–5 (Jan. 1974); CPM-7406X0453

Grishaeva, T. I.—Character of the change in lifetime during oxygen quenching of the afterglow of adsorbates —I. A. Zakharov, T. I. Grishaeva, and V. B. Aleskovskii. 36(5), 541–4 (May 1974); CPM-7409X1469

Gruzdev, P. F.—Radiation lifetimes of levels of the Ca III ion —P. F. Gruzdev and A. V. Loginov. 36(6), 719–20 (Jun. 1974); CPM-7410X1081

—Quasi-resonant transfer of excitation energy in the CO_2–Hf system —P. F. Gruzdev and I. G. Preobrazhenskii. 37(3), 345–6 (Sep. 1974)

—Neon. Transition probabilities 1. Transitions $2p^53p$–$2p^5ns$ (n = 3–6) —A. V. Loginov and P. F. Gruzdev. 37(5), 467–9 (Nov. 1974)

Gruzdev, V. P.—Effect of complex formation on nonradiative energy transfer between ions in liquid solutions —V. P. Gruzdev and V. L. Ermolaev. 37(6), 629–32 (Dec. 1974)

Gruzdeva, N. S.—Recombination radiation and bremsstrahlung of an oxygen plasma —N. S. Gruzdeva, L. S. Nikolaevskii, and I. V. Podmoshenskii. 36(5), 501–2 (May 1974); CPM-7409X1429

—Spectroscopic determination of ionization equilibrium by modulation of a discharge current —V. Ya. Aleksandrov, N. S. Gruzdeva, and I. V. Podmoshenskii. 37(4), 369–71 (Oct. 1974)

—Investigation of the equilibrium in a doubly ionized argon plasma — N. S. Gruzdeva, L. S. Nikolaevskii, and I. V. Podmoshenskii. 37 (5), 574–6 (Nov. 1974)

—Spectroscopic study of nonequilibrium in highly ionized helium — N. S. Gruzdeva, L. S. Nikolaevskii, and I. V. Podmoshenskii. 37 (6), 591–4 (Dec. 1974)

Gruzinskii, V. V.—The spectroscopy of intermolecular interactions. Nauka Press, Leningrad, 1972, 246 pp. —V. V. Gruzinskii and K. N. Solovev. 37(6), 684–5 (Dec. 1974)

Gubin, M. A.—Field in a cavity with two quasi-quarter-wave plates —M. A. Gubin, G. I. Kozin, and E. D. Protsenko. 36(3), 328–30 (Mar. 1974); CPM-7407X1014

Gulakov, I. R.—Scintillation mechanism in NaI-Tl —I. R. Gulakov and A. N. Pertsev. 36(1), 67–9 (Jan. 1974); CPM-7406X0427

Gulyaev, S. N.—Effect of gas pressure on low-frequency beats in a He–Ne laser —E. Yu. Andreeva, S. N. Gulyaev, and D. K. Terekhin. 36(2), 219–20 (Feb. 1974); CPM-7406X0579

Guminetskii, S. G.—Calculation of some parameters of a light field in the gap of a simulator —V. E. Palamaryuk, S. G. Guminetskii, and Ya. P. Marchuk. 37(3), 312–5 (Sep. 1974)

Gurchumeliya, A. D.—Comparison of nonrelativistic and relativistic perturbation theory using as an example the calculation of the energy of two-electron atoms —A. D. Gurchumeliya and U. I. Safronova. 36(4), 473–4 (Apr. 1974); CPM-7408X0255

Gurevich, D. B.—Influence of the Penning effect on electron-ion recombination in a helium arc plasma —V. Ya. Aleksandrov, D. B. Gurevich, A. B. Mikhailov, and I. V. Podmoshenskii. 37(5), 489–91 (Nov. 1974)

Gurinovich, G. P.—Fluorescence quenching of chlorophyll and related compounds by nitro compounds —S. L. Bondarev and G. P. Gurinovich. 36(4), 400–2 (Apr. 1974); CPM-7408X0182

—Laser photolysis of porphyrin complexes with transitions metal ions —B. M. Dzhagarov, G. P. Gurinovich, and A. M. Simonov. 37(2), 146–8 (Aug. 1974)

Gurvich, L. V.—The $\lambda = 4600$-Å band in a spectrum produced by pulsed photolysis of chromium carbonyl —Yu. M. Efremov, A. N. Samoilova, and L. V. Gurvich. 36(4), 381–2 (Apr. 1974); CPM-7408X0163

Guseva, T. V.—Diffraction splitting of the frequencies of oppositely traveling waves in a gas ring laser —T. V. Guseva and E. E. Fradkin. 36(5), 572–5 (May 1974); CPM-7409X1500

Gutan, V. B.—Two types of luminescence centers in CsI-Tl —V. B. Gutan, L. M. Shamovskii, A. A. Dunina, and B. S. Gorobets. 37 (4), 407–10 (Oct. 1974)

I

Igoshin, F. F.—Measurement of optical constants of materials in the 4–30 cm^{-1} region by a Michelson interferometer —F. F. Igoshin, A. P. Kiryanov, V. V. Mozhaev, M. A. Tulaikova, and A. A. Sheronov. 36(6), 669–71 (Jun. 1974); CPM-7410X1031

Iogansen, L. V.—Model of collective π-electron motion in molecules. Part 2 —L. V. Iogansen and V. V. Malov. 37(1), 25–8 (Jul. 1974)

Iovlev, A. A.—Infrared spectra of spinel solid solutions and their description by the cluster components method —V. M. Talanov, B. N. Varskoi, Yu. P. Vorobev, A. A. Iovlev, A. N. Men, and A. V. Serebryakova. 37(2), 212–3 (Aug. 1974)

Ishchenko, S. Ya.—Two-electron radial equations and calculations of pair-correlation energies for Be and Ne atoms —S. Ya. Ishchenko and V. V. Tolmachev. 37(6), 586–8 (Dec. 1974)

Ivanov, A. P.—Determination of polydisperse media parameters from intensity fluctuations of scattered radiation —A. P. Chaikovskii, A. Ya. Khairullina, and A. P. Ivanov. 36(5), 566–8 (May 1974); CPM-7409X1494

Ivanov, E. N.—Theory of Rayleigh and Raman scattering in molecular in molecular crystals —E. N. Ivanov. 37(4), 381–4 (Oct. 1974)

Ivanov, G. K.—Electron transfer in atomic collisions —G. K. Ivanov. 37(4), 361–4 (Oct. 1974)

Ivanov, L. N.—Summation of Feynman atomic diagrams with simple denominators. 2: Autoionization state of the He atom —L. N. Ivanov. 37(5), 479–81 (Nov. 1974)

Ivanov, V. S.—Bimolecular ionization of excited CH_3I molecules —V. S. Ivanov and F. I. Vilesov. 36(5), 602–3 (May 1974); CPM-7409X1530

Ivanov, V. V.—Approximation formulas in the theory of gyrotropy. Part 1 —V. I. Burkov, V. V. Ivanov, V. A. Kizel, and G. S. Semin. 37(4), 420–2 (Oct. 1974)

Ivanova, N. I.—Absorption in thin layers of thallium chloride —I. S. Bobkova and N. I. Ivanova. 36(1), 90–2 (Jan. 1974); CPM-7406X0450

—Spectroscopic study of the nature of luminescence centers in a NaCl-Tl phosphor for a wide range of activator concentrations — N. I. Ivanova, A. A. Soloveva, and L. I. Tarasova. 36(4), 416–20 (Apr. 1974); CPM-7408X0198

Ivanova, N. S.—Ellipsometry of ultrathin transparent films —G. A. Egorova, N. S. Ivanova, E. V. Potapov, and A. V. Rakov. **36**(4), 449–51 (Apr. 1974); CPM-7408X0231

Izakson, G. M.—Double-beam three-plate interferometer with polarizing elements —V. Kh. Goikman, G. M. Izakson, and V. A. Moskalev. **36**(1), 121–2 (Jan. 1974); CPM-7406X0481

Izyumova, T. G.—Magnetic relaxation of optically oriented nuclei of atoms interacting with a wall —V. P. Putyrskii and T. G. Izyumova. **37**(3), 227–30 (Sep. 1974)

K

Kabanov, M. V.—Scattering of optical radiation by a system of closely spaced scatters —E. A. Vedernikova and M. V. Kabanov. **37**(1), 71–4 (Jul. 1974)

Kagan, Yu. M.—Excitation of atomic lines in the positive column of a stratified discharge in hydrogen —Yu. M. Kagan and N. K. Mitrofanov. **36**(1), 28–31 (Jan. 1974); CPM-7406X0388

—Spectroscopic determination of electron concentration in the arc of a duoplasmatron ion source —M. A. Abroyan, Yu. M. Kagan, N. B. Kolokolov, and B. P. Lavrov. **36**(4), 375–7 (Apr. 1974); CPM-7408X0157

—Investigation of the positive column of discharge in helium at moderate pressures. Part 1. —Yu. M. Kagan and K. Paskalev. **37** (2), 129–31 (Aug. 1974)

Kalinkina, I. N.—Configuration of $3d^5$ electrons in a trigonal field. Spectra of Fe^{3+} ions in a demantoid garnet and corundum —T. F. Veremeichik, B. N. Grechushnikov, I. N. Kalinkina, and D. T. Sviridov. **36**(6), 658–61 (Jun. 1974); CPM-7410X1020

Kalinovskaya, N. I.—Investigation of several characteristics of an He —Cd laser —F. A. Korolev, A. I. Odintsov, T. V. Feofilaktova, and N. I. Kalinovskaya. **37**(6), 669–70 (Dec. 1974)

Kalintsev, A. G.—Spectral, angular, and temperature characteristics of HIO_3, $LiIO_3$, CDA, DKDP, KDP, and ADP nonlinear crystals in second- and fourth-harmonic generation —R. B. Andreev, V. D. Volosov, and A. G. Kalintsev. **37**(2), 169–71 (Aug. 1974)

—Calculation of directions of phase matching in collinear and vector interaction of waves in different crystals —V. D. Volosov and A. G. Kalintsev. **37**(4), 426–7 (Oct. 1974)

Kaliteevskaya, E. N.—Stepwise excitation of anti-Stokes fluorescence and photochemical processes in solutions of polymethine dyes —E. N. Kaliteevskaya and T. K. Razumova. **36**(6), 654–7 (Jun. 1974); CPM-7410X1016

Kalyagin, G. A.—Spectral evidence and mechanisms of intermolecular interactions involving bipolar molecules —I. E. Boldeskul, G. A. Kalyagin, Yu. P. Makovetskii, and E. V. Ryltsev. **37**(4), 459–60 (Oct. 1974)

Kamenskii, Yu. V.—Calculation of the intensities in the infrared spectra of molecules by the MO LCAO method in the approximation of neglecting two-atom differential overlap —Yu. V. Kamenskii, I. F. Kovalev, and I. D. Molodenkova. **37**(4), 379–80 (Oct. 1974)

Kaplyanskii, A. A.—Linear stark effect in the spectra of fluorapatite crystals activated with rare-earth ions —A. A. Kaplyanskii, V. N. Medvedev, and A. P. Skvortsov. **36**(2), 213–6 (Feb. 1974); CPM-7406X0573

—First- and second-order Raman spectra of Hg_2Cl_2, Hg_2Br_2, and Hg_2I_2 single crystals—Ch. Barta, A. A. Kaplyanskii, V. V. Kulakov, and Yu. F. Markov. **37**(1), 50–1 (Jul. 1974)

Kapralov, V. P.—Use of dispersion properties of the active medium of a laser to stabilize its emission frequency —V. P. Kapralov and A. S. Bulygin. **37**(5), 568–9 (Nov. 1974)

Karachevtsev, G. V.—Investigation of the spectral dependence of the yield of slow photoelectrons from platinum and silver surfaces in the vacuum ultraviolet —G. V. Karachevtsev, V. K. Potapov, and V. V. Sorokin. **36**(5), 563–5 (May 1974); CPM-7409X1491

Karapetyan, G. O.—Cooperative luminescence in glasses activated with Yb^{3+} —A. V. Dmitryuk, G. O. Karapetyan, V. I. Kosyakov, B. M. Makushkin, and V. A. Shirokshin. **37**(3), 335–6 (Sep. 1974)

Karyakin, E. N.—Submillimeter spectrum and intermolecular parameters —A. V. Burenin, A. N. Valbov, L. I. Gershtein, E. N. Karyakin, A. F. Krupnov, A. V. Maslovskii, and S. M. Shchapin. **37**(6), 676–8 (Dec. 1974)

Kask, P. A.—Probabilities for radiative and nonradiative transitions in (V_k+e^-) centers in KI —P. A. Kask, R. A. Kink, G. G. Liidya, and T. A. Soovik. **37**(5), 537–40 (Nov. 1974)

Kasyanov, Yu. S.—Intrashell transitions in the spectra of multiply charged titanium ions (Ti XV–Ti XIX) —Yu. S. Kasyanov, E. Ya. Kononov, V. V. Korobkin, K. N. Koshelev, A. N. Ryabtsev, R. V. Serov, and E. V. Skokan. **36**(1), 4–6 (Jan. 1974); CPM-7406X0364

Kats, M. L.—Dispersion characteristic of a He–Ne laser at 0.6328 micron —G. G. Akchurin, M. L. Kats, L. A. Melnikov, V. A. Sedelnikova, and V. V. Tuchin. **37**(1), 87–9 (Jul. 1974)

—Optimal conditions for measuring Voigt-contour parameters using a Fabry–Perot etalon —V. I. Tsoi, A. G. Velichko, and M. L. Kats. **37**(6), 673–7 (Dec. 1974)

Katsev, I. L.—Asymptotic time-dependent laws of radiation attenuation in media of [illegible] Zege, I. L. Katsev, and A. M. Lazaruk. **37**(6), [illegible] (Dec. 1974)

Kaveeva, Z. M.—On the question of investigation of the hyperfine and superhyperfine interaction by the light echo method —Z. M. Kaveeva and V. V. Samartsev. **37**(4), 465 (Oct. 1974)

Kavtrev, A. F.—Investigation of amplitude and phase holograms of diffuse objects —V. I. Lokshin, G. B. Semenov, and A. F. Kavtrev. **36**(5), 590–3 (May 1974); CPM-7409X1518

Kazakov, A. A.—Characteristics of second-harmonic intensity distribution at the output of a linearly inhomogeneous medium — O. F. Butyagin, A. A. Kazakov, and E. A. Kolyushenko. **36**(1), 112–5 (Jan. 1974); CPM-7406X0472

Kazakov, S. M.—Study of collisions of the second kind between $Hg(6^3P_{0,1})$ atoms and slow electrons in an Hg+CO mixture —S. M. Kazakov, A. I. Korotkov, and N. A. Prilezhaeva. **36**(6), 620–4 (Jun. 1974); CPM-7410X0982

Kazantsev, A. P.—Collision of highly excited atoms —A. P. Kazantsev. **37**(6), 589–90 (Dec. 1974)

Kazantsev, S. A.—Determination of the lifetime for the 4^1P_1 level of the helium atom by studying the alignment in the discharge —S. A. Kazantsev and V. P. Markov. **36**(3), 355–6 (Mar. 1974); CPM-7407X1041

—Alignment of excited argon atoms in the positive column of a direct-current discharge —S. A. Kazantsev, A. Kisling, and M. P. Chaika. **36**(5), 606–7 (May 1974); CPM-7409X1534

Khabibullaev, P. K.—Fine structure of the Rayleigh scattering line in certain alcohols —D. A. Rasulmikhamedova, L. Pulatova, L. E. Kvasova, A. G. Rasulmikhamedov, M. G. Khaliulin, and P. K. Khabibullaev. **37**(1), 116 (Jul. 1974)

Khachkuruzov, G. A.—Molecular constants of hydrogen peroxide. 4: Structural parameters —G. A. Khachkuruzov and I. N. Przhevalskii. **36**(2), 172–4 (Feb. 1974); CPM-7406X0532

—Molecular constants of hydrogen peroxide. 5: Force constants —I. N. Przhevalskii and G. A. Khachkuruzov. **36**(2), 175–7 (Feb. 1974); CPM-7406X0535

Khadzhi, P. I.—Two-exciton radiative recombination in semicondcutors at high levels of excitation —P. I. Khadzhi and S. A. Moskalenko. **37**(5), 544–6 (Nov. 1974)

Khaimov-Malkov, V. Ya.—Radioluminescence of leucosapphire and ruby under electron excitation —T. S. Bessonova, M. P. Stanislavskii, V. I. Tumanov, and V. Ya. Khaimov-Malkov. **37**(2), 160–3 (Aug. 1974)

—Induced absorption and thermoluminescence of leucosapphire and ruby after electron irradiation —T. S. Bessonova, M. P. Stanislavskii, V. I. Tumanov, and V. Ya. Khaimov-Malkov. **37**(4), 398–400 (Oct. 1974)

Khairullina, A. Ya.—Determination of polydisperse media parameters from intensity fluctuations of scattered radiation —A. P. Chaikovskii, A. Ya. Khairullina, and A. P. Ivanov. **36**(5), 566–8 (May 1974); CPM-7409X1494

Khakhaev, A. D.—Some optical schemes for the diagnosis of axially symmetric absorbing media bounded by transparent refracting walls —S. I. Krylova, L. A. Luizova, and A. D. Khakhaev. **37**(3), 316–8 (Sep. 1974)

Khaleev, M. M.—Continuous Nd:glass laser —N. M. Galaktionova, G. A. Garkavi, V. S. Zubkova, A. A. Mak, L. N. Soms, and M. M. Khaleev. **37**(1), 90–1 (Jul. 1974)

Khaliulin, M. G.—Fine structure of the Rayleigh scattering line in certain alcohols —D. A. Rasulmikhamedova, L. Pulatova, L. E. Kvasova, A. G. Rasulmikhamedov, M. G. Khaliulin, and P. K. Khabibullaev. **37**(1), 116 (Jul. 1974)

Khashkhozhev, Z. M.—Temperature dependence of the non-equilibrium luminescence of pairs of second neighbors of chromium ions in ruby —A. A. Vydrik, L. P. Nikitin, A. Ya. Ryskin, and Z. M. Khashkhozhev. **37**(3), 347–8 (Sep. 1974)

Khayutin, L. M.—Angular dependence of secondary luminescence specrra of a gas system —L. M. Khayutin. **36**(6), 635–8 (Jun. 1974); CPM-7410X0997

Khlusova, N. I.—Optimal balancing of spherical aberration and choosing the plane of best placing in the systems with central screening —V. A. Zverev, S. A. Rodionov, M. N. Sokolsii, and N. I. Khlusova. **37**(6), 660–3 (Dec. 1974)

Khodos, E. B.—Spectrum of Raman scattering of hydrogen in some liquid solutions —N. D. Orlova, L. A. Pozdnyakova, and E. B. Khodos. **37**(3), 340–1 (Sep. 1974)

Khodovoi, V. A.—Experimental investigation of a He–Ne laser with a discharge gap of rectangular cross section —V. E. Privalov and V. A. Khodovoi. **37**(4), 455–7 (Oct. 1974)

Kholmogorov, V. E.—Organic molecular photophysics J. B. Birks (Editor), Vol. 1, Wiley, New York, 1973 —V. E. Kholmogorov. **37**(6), 684 (Dec. 1974)

Khomchenko, V. S.—Franz–Keldysh effect in the emission of electroluminescent films —N. A. Vlasenko, Yu. V. Kopytko, and V. S. Khomchenko. **37**(4), 442–3 (Oct. 1974)

Khomenko, V. S.—Luminescence kinetics of the dissociated forms of europium benzoylacetonate. Part 2 —R. A. Puko, V. S. Khomenko, V. V. Kuznetsova, N. N. Mitkina, and T. I. Razvina. **36**(3), 294–7 (Mar. 1974); CPM-7407X0980

Khorlbekk, V.—Temperature dependence of the line widths in the Raman spectra of crystalline sodium thiocyanate —V. Khorlbekk, Yu. K. Delimarskii, and S. A. Kirillov. **37**(4), 458–9 (Oct. 1974)

Khovrin, G. V.—Determination of the potential surface and analysis of the anharmonic vibrations of the water molecule —L. A. Gribov and G. V. Khovrin. **36**(3), 274–6 (Mar. 1974); CPM-7407X0960

—Calculation of the potential surfaces of the H_2S and CO_2 molecules —L. A. Gribov and G. V. Khovrin. **36**(6), 642–4 (Jun. 1974); CPM-7410X1004

—Analysis of the anharmonic vibrations and potential surface of the ammonia molecule —L. A. Gribov and G. V. Khovrin. **37**(3), 257–9 (Sep. 1974)

Khristenko, S. V.—Polarizability of a relativistic hydrogen atom —A. F. Shestakov and S. V. Khristenko. **36**(4), 369–70 (Apr. 1974); CPM-7408X0151

—Sturm expansion of a two–particle Coulomb Green's function —S. V. Khristenko and S. I. Vetchinkin. **37**(6), 583–5 (Dec. 1974)

Khristov, N. N.—Energy distribution of electrons and the emission intensities in a hollow cathode —N. N. Khristov. **37**(4), 359–60 (Oct. 1974)

Khutorshchikov, V. I.—Determination of the Stark constant β_j for the $7^2P_{3/2}Cs^{133}$ level by the anticrossing method —G. I. Khvostenko, V. I. Khutorshchikov, and M. P. Chaika. **36**(4), 475 (Apr. 1974); CPM-7408X0257

Khvorostovskaya, L. E.—Mechanism of ozone formation in the molecular–oxygen glow discharge —L. E. Khvorostovskaya and V. A. Yankovskii. **37**(1), 13–5 (Jul. 1974)

Khvostenko, G. I.—Determination of the Stark constant β_j for the $7^2P_{3/2}Cs^{133}$ level by the anticrossing method —G. I. Khvostenko, V. I. Khutorshchikov, and M. P. Chaika. **36**(4), 475 (Apr. 1974); CPM-7408X0257

—Special case of crossing of the levels of alkali metal atoms in magnetic and electric fields —G. I. Khvostenko. **36**(5), 605–6 (May 1974); CPM-7409X1533

Khyuppenen, V. P.—Determination of the spectroscopic parameters of passive shutters made of KS–19 glass —S. A. Mikhnov, V. E. Matyushkov, and V. P. Khyuppenen. **37**(2), 190–1 (Aug. 1974)

Kikot, B. S.—Calculation of the frequencies and forms of the normal vibrations of the gauche and trans rotational isomers of 2–chloro– and 2–bromoethylamine —L. V. Sennitskaya, Yu. D. Timoshenkova, Yu. A. Pentin, and B. S. Kikot. **37**(2), 139–41 (Aug. 1974)

Kind, V. V.—Vibrational spectral of mixed naphthalene–β–naphthol molecular crystals —V. P. Fedorov, E. M. Averyanov, and V. V. Kind. **37**(3), 286–7 (Sep. 1974)

Kink, R. A.—Probabilities for radiative and nonradiative transitions in (V_k+e^-) centers in KI —P. A. Kask, R. A. Kink, G. G. Liidya, and T. A. Soovik. **37**(5), 537–40 (Nov. 1974)

Kirichenko, N. A.—Stark effect in tetracene and perylene films —L. M. Blinov and N. A. Kirichenko. **37**(5), 513–5 (Nov. 1974)

Kirillov, S. A.—Temperature dependence of the line widths in the Raman spectra of crystalline sodium thiocyanate —V. Khorlbekk, Yu. K. Delimarskii, and S. A. Kirillov. **37**(4), 458–9 (Oct. 1974)

Kiryanov, A. P.—Measurement of optical constants of materials in the 4–30 cm^{-1} region by a Michelson interferometer —F. F. Igoshin, A. P. Kiryanov, V. V. Mozhaev, M. A. Tulaikova, and A. A. Sheronov. **36**(6), 669–71 (Jun. 1974); CPM-7410X1031

Kiselev, V. M.—I^{127} atom in a magnetic field —I. M. Belousova, B. D. Bobrov, V. M. Kiselev, V. N. Kurzenkov, and P. I. Krepostnov. **37**(1), 20–4 (Jul. 1974)

Kisling, A.—Alignment of excited argon atoms in the positive column of a direct–current discharge —S. A. Kazantsev, A. Kisling, and M. P. Chaika. **36**(5), 606–7 (May 1974); CPM-7409X1534

Kit, I. E.—Image multiplication using uniaxial holograms —G. N. Buinov, I. E. Kit, K. S. Mustafin, and M. I. Savrasova. **37**(2), 196–7 (Aug. 1974)

Kitaev, G. A.—Calculation of scattering cross section of spherical particles with m = 1.86 (0.02) to m = 2.00 —I. T. Romanov, V. E. Kuzema, and G. A. Kitaev. **36**(4), 465 (Apr. 1974); CPM-7408X0247

Kiyashkina, G. S.—Excitation of metastable levels in np^2 configurations —P. A. Bokhan and G. S. Kiyashkina. **36**(3), 262–4 (Mar. 1974); CPM-7407X0948

—Production of population inversion in np^2 configurations —P. A. Bokhan and G. S. Kiyashkina. **36**(6), 615–7 (Jun. 1974); CPM-7410X0977

Kizel, V. A.—Approximation formulas in the theory of gyrotropy. Part 1 —V. I. Burkov, V. V. Ivanov, V. A. Kizel, and G. S. Semin. **37**(4), 420–2 (Oct. 1974)

Kleiner, I. P.—Rayleigh line shape and width of aniline, quinoline, and other liquids as function of temperature —F. Kh. Tukhvatullin, F. Ganiev, A. K. Atakhodzhaev, and I. P. Kleiner. **37**(2), 144–5 (Aug. 1974)

Klementeva, A. Yu.—Properties of absorbing multilayer interference filters —A. Yu. Klementeva and A. V. Tikhonravov. **36**(4), 452–4 (Apr. 1974); CPM-7408X0234

—Effect of low absorption on the spectral characteristics of multilayer systems —A. V. Tikhonravov and A. Yu. Klementeva. **37**(4), 437–9 (Oct. 1974)

Kleshchev, G. V.—Nature of centers of quasi–line absorption and fluorescence in frozen n–paraffin solutions of aromatic compounds. 1: Occurrence of interactions between molecules of the dissolved substance and centers of quasi–line absorption —G. V. Kleshchev, A. I. Lyamaev, L. A. Mishina, and L. A. Nakhimovskaya. **36**(1), 49–51 (Jan. 1974); CPM-7406X0409

Klimenko, I. S.—Sixth All–union School on the physical principles of holography —I. S. Klimenko. **37**(6), 691 (Dec. 1974)

Klimova, T. P.—Calculation and interpretation of the infrared spectra of ortho–and meta–dicarboclosododecaboranes —T. P. Klimova, L. A. Gribov, and V. I. Stanko. **36**(6), 650–3 (Jun. 1974); CPM-7410X1012

Klimusheva, G. V.—Exiton states of some pure and mixed molecular crystals. 3: Electronic spectra of crystalline solutions of p–dichorobenzene and p–chlorobromobenzene, and of p–dibromobenzene and p–chlorobromobenzene —G. V. Klimusheva, A. T. Rudchik, and R. V. Yaremko. **36**(4), 405–7 (Apr. 1974); CPM-7408X0187

Klindukhov, V. P.—Determination of hydrogen bond energy in the excited electronic state shifts of electronic bands using a four–level system —T. G. Meister and V. P. Klindukhov. **36**(4), 389–90 (Apr. 1974); CPM-7408X0171

—Determination of energy of intermolecular hydrogen bond in the ground and first excitation states for the system 1–azaphenan–threne–phenylic acid —V. P. Klindukhov and T. G. Meister. **37**(2), 207–9 (Aug. 1974)

Klochkov, V. P.—Near–threshold ruby laser under passive Q–switching —V. L. Bogdanov and V. P. Klochkov. **36**(2), 233–5 (Feb. 1974); CPM-7406X0593

—Fluorescence quenching of organic vapors by a radiation field —V. L. Bogdanov, V. P. Klochkov, and B. S. Neporent. **37**(2), 214–5 (Aug. 1974)

Klyucharev, A. N.—Measurement of relative oscillator strengths for transitions of subordinate series in rubidium and cesium —A. N. Klyucharev, V. Yu. Sepman, and B. V. Dobrolezh. **37**(5), 470–1 (Nov. 1974)

Knyazev, A. S.—Vibrational spectra of rhombically distorted preovskites —A. S. Knyazev, V. P. Zakharov, and Yu. M. Poplavko. **36**(5), 556–8 (May 1974); CPM-7409X1484

Kochanov, V. P.—Broadening and shift of the 0.63-μm neon line under the action of the discharge current —Im Tkhek-de, V. P. Kochanov, S. G. Rautian, E. G. Saprykin, and A. M. Shalagin. **36** (2), 152–4 (Feb. 1974); CPM-7406X0512

Kogan, B. Ya.—Measurement of quantum yield of the intercombination conversion in phthalocyanine solutions —A. V. Butenin, B. Ya. Kogan, E. A. Lukyanets, and L. I. Molchanova. **37** (4), 395–7 (Oct. 1974)

—Intercombination conversion in rhodamine 6G solutions —E. P. Shebanin, V. S. Dudkin, and B. Ya. Kogan. **37**(5), 570–1 (Nov. 1974)

—Supersensitive method for monitoring the otpical purity of liquids —A. V. Butenin and B. Ya. Kogan. **37**(5), 573–4 (Nov. 1974)

Kogan, V. G.—Anomalies of optical absorption in thin metal films —V. G. Kogan and V. A. Lavrovskii. **36**(5), 559–62 (May 1974); CPM-7409X1487

Kolerov, A. N.—Plasma diagnostics in the far-infrared (submillimeter) region using a Mach–Zehnder interferometer —A. N. Kolerov and G. D. Petrov. **37**(3), 342 (Sep. 1974)

Kolesov, Yu. I.—Interference filters for the far infrared —Yu. I. Kolesov and V. N. Listvin. **36**(4), 455–6 (Apr. 1974); CPM-7408X0237

Kolokolov, A. A.—Equilibrium radiation in a finite-size cavity —A. A. Kolokolov and G. V. Skrotskii. **36**(2), 127–9 (Feb. 1974); CPM-7406X0487

—Propagation of light pulses in a nonlinear dispersive medium —A. A. Kolokolov and A. I. Sukov. **37**(3), 308–11 (Sep. 1974)

Kolokolov, N. B.—Spectroscopic determination of electron concentration in the arc of a duoplasmatron ion source —M. A. Abroyan, Yu. M. Kagan, N. B. Kolokolov, and B. P. Lavrov. **36** (4), 375–7 (Apr. 1974); CPM-7408X0157

Kolomiitseva, T. D.—Infrared spectra of cryosystems. 2: Sulfur hexafluoride —V. V. Bertsev, T. D. Kolomiitseva, and N. M. Tsyganenko. **37**(3), 263–4 (Sep. 1974)

Kolominkov, Yu. D.—Production of narrow resonances in a long iodine absorption cell —V. I. Bobrik, Yu. D. Kolominkov, and B. S. Mogilnitskii. **37**(3), 343 (Sep. 1974)

Koloshnikov, V. G.—Nonlinear frequency converter as an infrared spectrometer and receiver —E. N. Antonov, V. G. Koloshnikov, and D. N. Nikogosyan. **36**(4), 446–8 (Apr. 1974); CPM-7408X0228

—Interferometric measurements of the linewidths of the emission of a pulsed PbSe injection laser —V. A. Ageikin, I. I. Zasavitskii, V. G. Koloshnikov, A. I. Likhter, E. G. Pel, and A. P. Shotov. **36**(4), 471–2 (Apr. 1974); CPM-7408X0253

Kolyushenko, E. A.—Characteristics of second-harmonic intensity distribution at the output of a linearly inhomogeneous medium — O. F. Butyagin, A. A. Kazakov, and E. A. Kolyushenko. **36**(1), 112–5 (Jan. 1974); CPM-7406X0472

Komarov, I. V.—Doubling of excitation in the case of thermal collision of resonantly excited cesium atoms —V. M. Borodin and I. V. Komarov. **36**(2), 145–9 (Feb. 1974); CPM-7406X0505

Komarovskii, V. A.—Relative values of oscillator strengths for spectral lines of Dy I —N. P. Penkin, V. A. Komarovskii, and V. V. Smirnov. **37**(3), 223–4 (Sep. 1974)

—Lifetimes of the $^3P^0_1$ level of YbI and the $^2P^0_{3/2,1/2}$ level of YbII — M. L. Burshtein, Ya. F. Verolainen, V. A. Komarovskii, A. L. Osherovich , and N. P. Penkin. **37**(4), 351–2 (Oct. 1974)

Komissarova, I. I.—Wave intensities of higher orders reconstructed by a nonlinearly recorded hologram —A. V. Alekseev-Popov, I. I. Komissarova, and G. V. Ostrovskaya. **37**(6), 656–9 (Dec. 1974)

Kondilenko, I.—Spectral composition of stimulated Raman scattering of nitric acid aqueous solutions as a function of pumping level —I. Kondilenko, P. A. Korotkov, and V. I. Malyi. **36**(3), 280–2 (Mar. 1974); CPM-7407X0966

Kondilenko, I. I.—Influence of the competition of vibrations on the spectral structure in stimulated Raman scattering —I. I. Kondilenko, P. A. Korotkov, and V. I. Malyi. **37**(4), 457–8 (Oct. 1974)

Kondratov, O. I.—Calculation of the infrared spectral absorption curve of poly(ethylene glycol adipate) —L. A. Gribov, I. V. Zhitlova, and O. I. Kondratov. **36**(5), 532–4 (May 1974); CPM-7409X1460

Konkov, A. A.—Infrared emission of carbon dioxide in the 3000–8500 K temperature range —A. A. Konkov and A. V. Vorontsov. **36**(3), 267–70 (Mar. 1974); CPM-7407X0953

—Experimental study of the radiation of H_2O and OH fundamental bands at high temperatures —A. A. Konkov and A. V. Vorontsov. **36**(4), 378–80 (Apr. 1974); CPM-7408X0160

Kononov, E. Ya.—Intrashell transitions in the spectra of multiply charged titanium ions (Ti XV–Ti XIX) —Yu. S. Kasyanov, E. Ya. Kononov, V. V. Korobkin, K. N. Koshelev, A. N. Ryabtsev, R. V. Serov, and E. V. Skokan. **36**(1), 4–6 (Jan. 1974); CPM-7406X0364

—Transitions in multiply charged berylliumlike ions —E. Ya. Kononov, K. N. Koshelev, and L. I. Podobedova. **37**(1), 1–3 (Jul. 1974)

Konovalova, S. A.—Discrete deflector of polychromatic light —E. I. Golovanevskii, S. A. Konovalova, and V. N. Churilovskii. **36**(2), 245–6 (Feb. 1974); CPM-7406X0605

Konstantinovich, A. V.—A problem in the theory of radiation by extended charges —A. B. Kukanov and A. V. Konstantinovich. **36** (6), 709 (Jun. 1974); CPM-7410X1071

Koppe, V. T.—Excitation of CH_4 and C_2H_2 molecules by electron impact —V. T. Koppe, N. P. Danilevskii, A. G. Koval, and D. V. Pilipenko. **36**(3), 347–8 (Mar. 1974); CPM-7407X1033

Kopytko, Yu. V.—Franz–Keldysh effect in the emission of electroluminescent films —N. A. Vlasenko, Yu. V. Kopytko, and V. S. Khomchenko. **37**(4), 442–3 (Oct. 1974)

Korets, A. Ya.—Spectroscopic manifestation of orientational disordering in the p-bromochlorobenzene molecular crystal in the region of the lowest singlet–singlet transition —A. Ya. Korets, V. P. Fedorov, and A. I. Shtain. **37**(5), 562–3 (Nov. 1974)

Korobkin, V. V.—Intrashell transitions in the spectra of multiply charged titanium ions (Ti XV–Ti XIX) —Yu. S. Kasyanov, E. Ya. Kononov, V. V. Korobkin, K. N. Koshelev, A. N. Ryabtsev, R. V. Serov, and E. V. Skokan. **36**(1), 4–6 (Jan. 1974); CPM-7406X0364

Korolev, F. A.—Investigation of several characteristics of an He—Cd laser —F. A. Korolev, A. I. Odintsov, T. V. Feofilaktova, and N. I. Kalinovskaya. **37**(6), 669–70 (Dec. 1974)

Koromaev, O. N.—Line spectra of phthalocyanines at 4.2 K and certain special features of their multiplet structure —O. N. Koromaev and R. I. Personov. **37**(5), 507–9 (Nov. 1974)

Korostelev, Yu. S.—Sum rules for frequency squares and vibration frequencies of phenyl halides —Yu. S. Korostelev, N. A. Korosteleva, and L. M. Sverdlov. **37**(2), 218–9 (Aug. 1974)

Korosteleva, N. A.—Sum rules for frequency squares and vibration frequencies of phenyl halides —Yu. S. Korostelev, N. A. Korosteleva, and L. M. Sverdlov. **37**(2), 218–9 (Aug. 1974)

Korotkov, A. I.—Study of collisions of the second kind between $Hg(6^3P_{0,1})$ atoms and slow electrons in an Hg+CO mixture —S. M. Kazakov, A. I. Korotkov, and N. A. Prilezhaeva. **36**(6), 620–4 (Jun. 1974); CPM-7410X0982

Korotkov, P. A.—Spectral composition of stimulated Raman scattering of nitric acid aqueous solutions as a function of pumping level —I. Kondilenko, P. A. Korotkov, and V. I. Malyi. **36**(3), 280–2 (Mar. 1974); CPM-7407X0966

—Influence of the competition of vibrations on the spectral structure in stimulated Raman scattering —I. I. Kondilenko, P. A. Korotkov, and V. I. Malyi. **37**(4), 457–8 (Oct. 1974)

Korotkov, V. P.—Supercooled germanium bolometer for the near ir region —N. A. Pankratov and V. P. Korotkov. **37**(1), 108–10 (Jul. 1974)

Korovina, V. M.—Relation between the observed and true absorption spectra of molecules in a condensed medium. 9: Effects of solvents on the intensity and shape of the electronic bands of dyes —V. M. Korovina and N. G. Bakhshiev. **36**(5), 510–1 (May 1974); CPM-7409X1438

Korsunskii, M. I.—Optical properties of palladium in the visible and near ir regions of the spectrum —Zh. Duisebaeva, M. I. Korsunskii, and G. P. Motulevich. **37**(1), 82–3 (Jul. 1974)

Koshelev, K. N.—Intrashell transitions in the spectra of multiply charged titanium ions (Ti XV–Ti XIX) —Yu. S. Kasyanov, E. Ya. Kononov, V. V. Korobkin, K. N. Koshelev, A. N. Ryabtsev, R. V. Serov, and E. V. Skokan. **36**(1), 4–6 (Jan. 1974); CPM-7406X0364

—Transitions in multiply charged berylliumlike ions —E. Ya. Kononov, K. N. Koshelev, and L. I. Podobedova. **37**(1), 1–3 (Jul. 1974)

Koslov, G. I.—Emittance and radiative cooling of xenon heated by a shock wave —G. I. Koslov and D. I. Roitenburg. **36**(5), 497–500 (May 1974); CPM-7409X1425

Kosobukin, V. A.—Shift of vibrational frequencies accompanying static stretching of the polyethylene molecule —V. A. Kosobukin. **37**(6), 617–20 (Dec. 1974)

Kostyuk, V. P.—Ellipsometric method for measuring optical constants and thickness of thin absorbing films on metal substrates —I. N. Shklyarevskii, A. F. A. El Shazli, R. G. Yarovaya, and V. P. Kostyuk. **36**(1), 116–8 (Jan. 1974); CPM-7406X0476

Kosyakov, V. I.—Cooperative luminescence in glasses activated with Yb^{3+} —A. V. Dmitryuk, G. O. Karapetyan, V. I. Kosyakov, B. M. Makushkin, and V. A. Shirokshin. **37**(3), 335–6 (Sep. 1974)

Koval, A. G.—Excitation of CH_4 and C_2H_2 molecules by electron impact —V. T. Koppe, N. P. Danilevskii, A. G. Koval, and D. V. Pilipenko. **36**(3), 347–8 (Mar. 1974); CPM-7407X1033

Kovalenok, G. V.—Rotational structure of the 5472–5463Å band of calcium oxide —G. A. Volnyets, G. V. Kovalenok, and V. A. Sokolov. **36**(5), 609–700 (May 1974); CPM-7409X1537

Kovalev, I. F.—Use of the regularization method for determining the true profiles of spectral lines —I. D. Molodenkova and I. F. Kovalev. **36**(2), 166–7 (Feb. 1974); CPM-7406X0526

—Calculation of the intensities in the infrared spectra of molecules by the MO LCAO method in the approximation of neglecting two–atom differential overlap —Yu. V. Kamenskii, I. F. Kovalev, and I. D. Molodenkova. **37**(4), 379–80 (Oct. 1974)

Kovalskii, L. V.—Possibility of a single approach to the classical and holographic methods of producing an optical image —T. Ya. Zakshetskaya, L. V. Kovalskii, and V. K. Polyanskii. **37**(1), 95–7 (Jul. 1974)

Kovizhnykh, N. A.—Effect of polymorphism of N–paraffin crystals on the luminescence of additive coronene molecules —D. M. Grebenshchikov, N. A. Kovizhnykh, and S. A. Kozlov. **37**(2), 155–7 (Aug. 1974)

Kozhich, D. T.—Internal heavy–atom effect in porphyrin molecules. 2: Halogen derivatives of deuteroporphyrin IX—A. T. Gradyushko, D. T. Kozhich, K. N. Sokolev, and M. P. Tsvirko. **37**(5), 510–2 (Nov. 1974)

Kozin, G. I.—Field in a cavity with two quasi–quarter–wave plates —M. A. Gubin, G. I. Kozin, and E. D. Protsenko. **36**(3), 328–30 (Mar. 1974); CPM-7407X1014

Kozlov, I. N.—Depolarization of fluorescence during decay, using multichannel time analysis —L. V. Volodko, M. I. Demchuk, I. N. Kozlov, A. M. Sarzhevskii, and A. F. Chernyavski. **37**(4), 392–4 (Oct. 1974)

Kozlov, S. A.—Effect of polymorphism of N–paraffin crystals on the luminescence of additive coronene molecules —D. M. Grebenshchikov, N. A. Kovizhnykh, and S. A. Kozlov. **37**(2), 155–7 (Aug. 1974)

Kozlov, Yu. G.—Possibilities of using an unformed Rozhdestvenskii hook to determine the Nfl value —Yu. G. Kozlov and G. A. Plekhotin. **36**(5), 600 (May 1974); CPM-7409X1528

Kozolov, G. I.—Investigation of the continuous emission spectrum of the xenon plasma of a continuous optical discharge —G. I. Kozolov, V. A. Kuznetsov, and V. A. Masyukov. **37**(6), 601–5 (Dec. 1974)

Kraevskii, S. L.—Nonradiative energy transfer in phosphate glasses activated with rare earth ions —S. L. Kraevskii, Yu. P. Rudnitskii, and E. I. Sverchkov. **36**(6), 662–5 (Jun. 1974); CPM-7410X1024

Kraus, O.—7th seminar, excitons in crystals —O. Kraus. **37**(6), 692 (Dec. 1974)

Kravchenko, V. I.—Rapid spectroscopy using lasers with swept lasing frequency —S. P. Anokhov, V. I. Kravchenko, and M. S. Soskin. **36**(1), 106–8 (Jan. 1974); CPM-7406X0466

Kravets, V. K.—Phosphorescence of naphthalene crystals with surface impurities —V. K. Kravets, V. I. Melnik, and M. T. Shpak. **37**(5), 527–8 (Nov. 1974)

Krepostnov, P. I.—I^{127} atom in a magnetic field —I. M. Belousova, B. D. Bobrov, V. M. Kiselev, V. N. Kurzenkov, and P. I. Krepostnov. **37**(1), 20–4 (Jul. 1974)

Kresin, V. Z.—π–Electron system in a strong magnetic field —V. Z. Kresin, V. A. Litovchenko, and A. G. Panasenko. **37**(2), 149–52 (Aug. 1974)

Krindach, D. P.—Thermal effects on parametric light scattering in $LiNbO_3$ —Yu. A. Gorokhov, D. P. Krindach, V. S. Maiorov, and V. S. Shevera. **36**(5), 587–9 (May 1974); CPM-7409X1515

—Effect of thermoelastic stresses on the optical indicatrix of a uniaxial crystal —A. A. Vigasin, Yu. A. Gorokhov, D. P. Krindach, and A. P. Sukhorukov. **37**(6), 654–5 (Dec. 1974)

Kristofel, N. N.—The 11th European Congress on Molecular Spectroscopy (ECMS–X1) —N. N. Kristofel. **36**(3), 358–60 (Mar. 1974); CPM-7407X1044

Krivoshchekov, G. V.—Transient optical second–harmonic excitation with phase mismatch —G. V. Krivoshchekov, N. G. Nikulin, and V. I. Stroganov. **36**(3), 335–7 (Mar. 1974); CPM-7407X1021

Krochuk, A. S.—Luminescence of phenanthrene single crystal at low temperatures —A. S. Krochuk and E. V. Smishko. **37**(1), 59–60 (Jul. 1974)

Krotov, M. R.—Resonance properties of a three–mirror multiple–beam interferometer —V. Ya. Balakhanov, V. K. Zhivotov, M. R. Krotov, A. R. Striganov, and M. D. Suleimenov. **36**(3), 331–4 (Mar. 1974); CPM-7407X1017

Kruchek, M. P.—Nature of the Cotton effect in tetralins —M. P. Kruchek. **37**(1), 114–5 (Jul. 1974)

Krugerskii, A. M.—Light scattering by a polydisperse system of large spherical particles —E. P. Zimin and A. M. Krugerskii. **37**(3), 337–9 (Sep. 1974)

Krupennikova, I. N.—Calculation of the infrared absorption spectrum of ethylamine —L. A. Gribov, M. P. Noskova, and I. N. Krupennikova. **36**(4), 466–7 (Apr. 1974); CPM-7408X0248

Krupitskii, E. I.—Optimization of the method of recording phase holograms of a set of diffuse and point objects —I. S. Barbanel and E. I. Krupitskii. **36**(4), 431–4 (Apr. 1974); CPM-7408X0213

Krupnov, A. F.—Submillimeter spectrum and intermolecular parameters —A. V. Burenin, A. N. Valbov, L. I. Gershtein, E. N. Karyakin, A. F. Krupnov, A. V. Maslovskii, and S. M. Shchapin. **37**(6), 676–8 (Dec. 1974)

Krylova, S. I.—Some optical schemes for the diagnosis of axially symmetric absorbing media bounded by transparent refracting walls —S. I. Krylova, L. A. Luizova, and A. D. Khakhaev. **37**(3), 316–8 (Sep. 1974)

Kryukov, N. A.—Diffusion coefficient for metastable atoms of mercury in argon —N. P. Penkin, T. P. Redko, and N. A. Kryukov. **37**(4), 461–2 (Oct. 1974)

Kuchikyan, L. M.—Diffraction on the entrance face plane of an optic fiber —L. M. Kuchikyan. **36**(3), 346–7 (Mar. 1974); CPM-7407X1032

—Some problems of the geometrical optics of straight hexagonal optical fibers —L. M. Kuchikyan. **36**(4), 467–9 (Apr. 1974); CPM-7408X0249

—Polarization of light in light–guides of square shape —L. M. Kuchikyan and A. V. Volyar. **36**(5), 595–6 (May 1974); CPM-7409X1523

Kuchinskii, V. V.—System of Hartree–type equations for quasi–stationary states. Calculation of the energy and width of levels of doubly excited helium —V. V. Kuchinskii. **36**(3), 255–7 (Mar. 1974); CPM-7407X0941

Kukanov, A. B.—A problem in the theory of radiation by extended charges —A. B. Kukanov and A. V. Konstantinovich. **36**(6), 709 (Jun. 1974); CPM-7410X1071

—Transient radiation of a current–carrying charged cluster crossing a plane–parallel ferrodielectric plate —A. B. Kukanov, G. A. Lavrova, and O. G. Goryaga. **37**(4), 454–5 (Oct. 1974)

Kulagina, L. V.—Plasma production by photoionization of a gas —I. V. Dvornikov, L. V. Kulagina, I. V. Podmoshenskii, and A. V. Yakovleva. **36**(1), 22–3 (Jan. 1974); CPM-7406X0382

Kulakov, V. V.—First– and second–order Raman spectra of Hg_2Cl_2, Hg_2Br_2, and Hg_2I_2 single crystals —Ch. Barta, A. A. Kaplyanskii, V. V. Kulakov, and Yu. F. Markov. **37**(1), 50–1 (Jul. 1974)

Kunetskii, M. G.—Scattering of radiation by metal black —M. Yu. Sakhnovskii and M. G. Kunetskii. **37**(6), 651–3 (Dec. 1974)

Kurasbediani, A. I.—Effect of solvent on the nonlinear properties of solutions of organic dyes —E. B. Aslanidi, A. I. Kurasbediani, B. S. Lezhava, and V. V. Mumladze. **37**(3), 273–5 (Sep. 1974)

Kurzenkov, V. N.—I^{127} atom in a magnetic field —I. M. Belousova, B. D. Bobrov, V. M. Kiselev, V. N. Kurzenkov, and P. I. Krepostnov. **37**(1), 20–4 (Jul. 1974)

Kusainova, B. K.—Luminescence of ammonium halide crystals activated with indium —B. K. Kusainova. **36**(6), 706–7 (Jun. 1974); CPM-7410X1068

Kuzema, V. E.—Calculation of scattering cross section of spherical particles with m = 1.86 (0.02) to m = 2.00 —I. T. Romanov, V. E. Kuzema, and G. A. Kitaev. **36**(4), 465 (Apr. 1974); CPM-7408X0247

Kuzilin, Yu. E.—Holographic synthesis of the aperture of a composite objective —Yu. E. Kuzilin and V. N. Sintsov. **36**(3), 352–3 (Mar. 1974); CPM-7407X1038

Kuzmichev, V. M.—Absorption of electromagnetic waves by a metallic cylinder —V. M. Kuzmichev and Yu. M. Latynin. **37**(3), 319–21 (Sep. 1974)

Kuzmin, S. G.—Photochromism of spiropyrans by laser photolysis —V. A. Murin, V. F. Mandzhikov, S. G. Kuzmin, and V. A. Barachevskii. **37**(2), 216–8 (Aug. 1974)

Kuzmin, V. S.—Deactivation of triplet states and delayed fluorescence of cyanine dyes in sensitized photoexcitation —A. K. Chibisov, V. S. Kuzmin, and Yu. I. Lifanov. **36**(5), 537–40 (May 1974); CPM-7409X1465

Kuznetsov, A. S.—Investigation of luminescence centers in natural diamonds —M. V. Lukyanovich, I. V. Yaek, and A. S. Kuznetsov. **36**(5), 549–52 (May 1974); CPM-7409X1477

Kuznetsov, N. A.—Calculation of the vibrational spectra of methyl propionate and ethyl propionate —V. I. Vakhlyueva, N. A. Kuznetsov, L. M. Sverdlov, and A. L. Smolyanskii. **36**(3), 277–9 (Mar. 1974); CPM-7407X0963

Kuznetsov, V. A.—Investigation of the continuous emission spectrum of the xenon plasma of a continuous optical discharge —G. I. Kozolov, V. A. Kuznetsov, and V. A. Masyukov. **37**(6), 601–5 (Dec. 1974)

Kuznetsova, V. V.—Luminescence kinetics of the dissociated forms of europium benzoylacetonate. Part 2 —R. A. Puko, V. S. Khomenko, V. V. Kuznetsova, N. N. Mitkina, and T. I. Razvina. **36**(3), 294–7 (Mar. 1974); CPM-7407X0980

Kvasova, L. E.—Fine structure of the Rayleigh scattering line in certain alcohols —D. A. Rasulmikhamedova, L. Pulatova, L. E. Kvasova, A. G. Rasulmikhamedov, M. G. Khaliulin, and P. K. Khabibullaev. **37**(1), 116 (Jul. 1974)

Kvlividze, V. A.—Penning effect in the collision with an excited helium ion. 1. —V. A. Kvlividze and P. A. Svotin. **37**(1), 7–9 (Jul. 1974)

—Penning effect in collision with an excited helium ion. 2 —V. A. Kvlividze, N. V. Laktionov, and P. A. Svotin. **37**(3), 344–5 (Sep. 1974)

Kynev, K.—The effect of divalent, non-activating cations on the luminescence characteristics of NaCl–Sn phosphor —K. Kynev and V. Tabakova. **37**(3), 288–91 (Sep. 1974)

—Effect of divalent nonactivating cations on the luminescence characteristics of of KBr–Sn and NaBr–Sn phosphors —K. Kynev and V. Tabakova. **37**(4), 414–7 (Oct. 1974)

L

Lada, A. V.—Optical properties of films of metaselenoarsenites of alkali metals —A. V. Lada, V. A. Zuban, A. N. Borets, and M. I. Golovei. **37**(3), 329–31 (Sep. 1974)

Lakin, E. E.—Ultra violet spectra of some zinc sulfide polytypes and crystals with stacking faults —N. K. Morozova, L. V. Gamosov, and E. E. Lakin. **37**(6), 639–42 (Dec. 1974)

Lakoza, E. L.—Critical opalescence in a gravitational field —E. L. Lakoza and A. V. Chalyi. **37**(1), 79–81 (Jul. 1974)

Laktionov, N. V.—Penning effect in collision with an excited helium ion. 2 —V. A. Kvlividze, N. V. Laktionov, and P. A. Svotin. **37**(3), 344–5 (Sep. 1974)

Lastochkina, V. A.—Rotation of polyatomic molecules in vapors using infrared absorption band profiles —G. A. Zalesskaya and V. A. Lastochkina. **37**(5), 501–3 (Nov. 1974)

Latynin, Yu. M.—Absorption of electromagnetic waves by a metallic cylinder —V. M. Kuzmichev and Yu. M. Latynin. **37**(3), 319–21 (Sep. 1974)

Lavrik, N. L.—Effect of hydrogen bond and internal field on the Raman line intensity in the CD_3OH–CCl_4 system —N. L. Lavrik and Yu. I. Naberukhin. **37**(1), 44–7 (Jul. 1974)

Lavrov, B. P.—Spectroscopic determination of electron concentration in the arc of a duoplasmatron ion source —M. A. Abroyan, Yu. M. Kagan, N. B. Kolokolov, and B. P. Lavrov. **36**(4), 375–7 (Apr. 1974); CPM-7408X0157

Lavrova, G. A.—Transient radiation of a current-carrying charged cluster crossing a plane–parallel ferrodielectric plate —A. B. Kukanov, G. A. Lavrova, and O. G. Goryaga. **37**(4), 454–5 (Oct. 1974)

Lavrovskii, V. A.—Anomalies of optical absorption in thin metal films —V. G. Kogan and V. A. Lavrovskii. **36**(5), 559–62 (May 1974); CPM-7409X1487

Lazaruk, A. M.—Asymptotic time–dependent laws of radiation attenuation in media of various geometries —E. P. Zege, I. L. Katsev, and A. M. Lazaruk. **37**(6), 646–50 (Dec. 1974)

Lebedev, V. P.—Optical properties of thin garanular films of tellurium —I. N. Shklyarevskii, A. I. Usoskin, V. P. Lebedev, and E. N. Alekseev. **36**(4), 457–60 (Apr. 1974); CPM-7408X0239

Lebedev, V. V.—Resolving power of a nonlinear image converter in critical synchronism —A. V. Gainer, V. V. Lebedev, and S. I. Marennikov. **37**(4), 428–30 (Oct. 1974)

Lesin, V. I.—Modulation of the quantum yield of the fluorescence of excited complexes by a weak magnetic field —E. L. Frankevich, B. M. Rumyantsev, and V. I. Lesin. **37**(2), 215–6 (Aug. 1974)

Letokhov, V. S.—Measurement of the pressure broadening and shift of the NH_3 vibration–rotation line (asQ(5,3) ν_2) by the method of out-of-resonance CO_2 laser radiation —V. S. Letokhov, A. G. Platova, and O. A. Tumanov. **37**(1), 29–30 (Jul. 1974)

Levin, M. B.—Efficiency of liquid luminescence filter in a ruby laser —M. B. Levin, A. S. Cherkasov, and V. I. Shirokov. **36**(5), 579–80 (May 1974)

Levina, M. D.—Factors that determine the peculiarities in the variations of the optical characteristics of narrowband interference filters —Sh. A. Furman and M. D. Levina. **37**(4), 434–6 (Oct. 1974)

Levkin, L. V.—Spectral luminescence study of solutions of active Nd^{3+} centers in $POCl_3$+$SnCl_4$ —T. K. Andreeva, M. E. Zhabotinskii, L. V. Levkin, and V. I. Ralchenko. **37**(5), 529–32 (Nov. 1974)

Levshin, L. V.—Concentration quenching of luminescence in alcohol solutions of rhodamine dyes —L. V. Levshin, E. Yu. Bekhli, T. D. Slavnova, and V. I. Yuzhakov. **36**(3), 290–3 (Mar. 1974); CPM-7407X0976

Lezhava, B. S.—Effect of solvent on the nonlinear properties of solutions of organic dyes —E. B. Aslanidi, A. I. Kurasbediani, B. S. Lezhava, and V. V. Mumladze. **37**(3), 273–5 (Sep. 1974)

Libov, V. S.—Effect of optical polarization on the intensities and frequencies of the spectrum of a calcium fluoroapatite crystal in the region of the internal vibrations of the PO_4^{3-} ion —I. I. Shaganov and V. S. Libov. **37**(1), 55–8 (Jul. 1974)

—Influence of the effective field of a light wave on the Raman spectra of condensed media. Part 3. Raman spectra at the liquid–vapor phase transition —V. M. Sidorenko, V. S. Libov, and N. G. Bakhshiev. **37**(4), 385–8 (Oct. 1974)

—Influence of the effective field of a light-wave on the Raman spectra of condensed media. 4: Fermi resonance in the spontaneous Raman spectra of carbon tetrachloride —V. M. Sidorenko, V. S. Libov, and N. G. Bakhshiev. **37**(6), 621–3 (Dec. 1974)

Lifanov, Yu. I.—Deactivation of triplet states and delayed fluorescence of cyanine dyes in sensitized photoexcitation —A. K. Chibisov, V. S. Kuzmin, and Yu. I. Lifanov. **36**(5), 537–40 (May 1974); CPM-7409X1465

Liidya, G. G.—Polarized luminescence from unactivated lead chloride crystals —G. G. Liidya and VI. G. Plekhanov. **36**(5), 553–5 (May 1974); CPM-7409X1481

—Probabilities for radiative and nonradiative transitions in (V_k+e^-) centers in KI —P. A. Kask, R. A. Kink, G. G. Liidya, and T. A. Soovik. **37**(5), 537–40 (Nov. 1974)

Likhter, A. I.—Interferometric measurements of the linewidths of the emission of a pulsed PbSe injection laser —V. A. Ageikin, I. I. Zasavitskii, V. G. Koloshnikov, A. I. Likhter, E. G. Pel, and A. P. Shotov. **36**(4), 471–2 (Apr. 1974); CPM-7408X0253

Lisovskaya, I. A.—Radioluminescence of solid solutions of naphthalene–d_8 in methylcyclohexane and butyl chloride under x-ray irradiation —I. A. Lisovskaya and M. V. Alfimov. **37**(6), 624–6 (Dec. 1974)

Listvin, V. N.—Interference filters for the far infrared —Yu. I. Kolesov and V. N. Listvin. **36**(4), 455–6 (Apr. 1974); CPM-7408X0237

Litovchenko, V. A.—π-Electron system in a strong magnetic field —V. Z. Kresin, V. A. Litovchenko, and A. G. Panasenko. **37**(2), 149–52 (Aug. 1974)

Livanova, L. D.—Spectra of f–f transitions of the Eu^{2+} ion in $KMgF_3$ and $NaMgF_3$ crystals —N. S. Altshuler, L. D. Livanova, and A. L. Stolov. **36**(1), 72–5 (Jan. 1974); CPM-7406X0432

Loginov, A. V.—Radiation lifetimes of levels of the Ca III ion —P. F. Gruzdev and A. V. Loginov. **36**(6), 719–20 (Jun. 1974); CPM-7410X1081

—Neon. Transition probabilities 1. Transitions $2p^53p$–$2p^5ns$ (n = 3–6) —A. V. Loginov and P. F. Gruzdev. **37**(5), 467–9 (Nov. 1974)

Loginov, Yu. V.—Photoelectron spectra of trimethylamine derivatives —M. E. Akopyan and Yu. V. Loginov. **37**(3), 250–2 (Sep. 1974)

Lokshin, V. I.—Investigation of amplitude and phase holograms of diffuse objects —V. I. Lokshin, G. B. Semenov, and A. F. Kavtrev. **36**(5), 590–3 (May 1974); CPM-7409X1518

Lopatin, S. N.—Photoelectron spectra of a number of substitution products of thiophosphoryl chloride —V. I. Vovna, S. N. Lopatin, R. Pettsold, F. I. Vilesov, and M. E. Akopyan. **36**(1), 99–102 (Jan. 1974); CPM-7406X0459

Luizova, L. A.—Some optical schemes for the diagnosis of axially symmetric absorbing media bounded by transparent refracting walls —S. I. Krylova, L. A. Luizova, and A. D. Khakhaev. **37**(3), 316–8 (Sep. 1974)

Lukin, A. V.—The use of higher diffraction orders of holograms employed as optical components —G. N. Buinov, A. V. Lukin, and K. S. Mustafin. **37**(1), 98–100 (Jul. 1974)

Lukomskii, G. V.—Determination of the probabilities of relaxation processes in complex organic molecules from the relaxation shift of laser spectra—B. S. Neporent, V. B. Shilov, and G. V. Lukomskii. **37**(6), 682–3 (Dec. 1974)

Lukyanets, E. A.—Measurement of quantum yield of the intercombination conversion in phthalocyanine solutions —A. V. Butenin, B. Ya. Kogan, E. A. Lukyanets, and L. I. Molchanova. **37**(4), 395–7 (Oct. 1974)

Lukyanovich, M. V.—Investigation of luminescence centers in natural diamonds$_{86}$—M. V. Lukyanovich, I. V. Yaek, and A. S. Kuznetsov. **36**(5), 549–52 (May 1974); CPM-7409X1477

Lyamaev, A. I.—Nature of centers of quasi–line absorption and fluorescence in frozen n–paraffin solutions of aromatic compounds. 1: Occurrence of interactions between molecules of the dissolved substance and centers of quasi–line absorption —G. V. Kleshchev, A. I. Lyamaev, L. A. Mishina, and L. A. Nakhimovskaya. **36**(1), 49–51 (Jan. 1974); CPM-7406X0409

Lyubimov, V. V.—Laser spectrum selection with telescopic resonators —V. V. Lyubimov, S. K. Medvedev, I. B. Orlova, and V. F. Petrov. **36**(4), 469–70 (Apr. 1974); CPM-7408X0251

M

Maiburov, S. P.—Polarization of electronic transitions in the absorption spectrum of benzalaniline —S. P. Maiburov, K. R. Popov, and L. V. Smirnov. **37**(2), 205–6 (Aug. 1974)

Maiorov, V. S.—Thermal effects on parametric light scattering in $LiNbO_3$ —Yu. A. Gorokhov, D. P. Krindach, V. S. Maiorov, and V. S. Shevera. **36**(5), 587–9 (May 1974); CPM-7409X1515

Mak, A. A.—Continuous Nd:glass laser —N. M. Galaktionova, G. A. Garkavi, V. S. Zubkova, A. A. Mak, L. N. Soms, and M. M. Khaleev. **37**(1), 90–1 (Jul. 1974)

—Single mode cw Nd^{3+}: YAG laser —N. M. Galaktionova, V. V. Gershun, and A. A. Mak. **37**(2), 184–5 (Aug. 1974)

Maklakov, L. I.—Calculation of the planar vibrations of the skeleton of polymeric cyclicmolecules of the polyacene type —L. I. Maklakov and V. L. Furer. **37**(3), 260–2 (Sep. 1974)

Makovetskii, Yu. P.—Spectral evidence and mechanisms of intermolecular interactions involving bipolar molecules —I. E. Boldeskul, G. A. Kalyagin, Yu. P. Makovetskii, and E. V. Ryltsev. **37**(4), 459–60 (Oct. 1974)

Makovkin, A. V.—Excitation of thin–film waveguides by a holographic method —Yu. A. Bykovskii, A. V. Makovkin, and V. L. Smirnov. **37**(5), 579–80 (Nov. 1974)

Makrenko, S. N.—Efficiency of the vibrational deactivation and quenching of an electronically excited I_2 molecule—E. D. Bugrim, S. N. Makrenko, and I. L. Tsikora. **37**(6), 610–2 (Dec. 1974)

Maksimenko, T. I.—Optical constants for the region of CuI exciton absorption —L. A. Ageev, V. K. Miloslavskii, and T. I. Maksimenko. **36**(1), 76–9 (Jan. 1974); CPM-7406X0436

Makushkin, B. M.—Cooperative luminescence in glasses activated with Yb^{3+} —A. V. Dmitryuk, G. O. Karapetyan, V. I. Kosyakov, B. M. Makushkin, and V. A. Shirokshin. **37**(3), 335–6 (Sep. 1974)

Makushkin, Yu. S.—Reduction of the rotational Hamiltonian of molecules of the asymmetric rotor type —V. N. Bryukhanov and Yu. S. Makushkin. **36**(1), 39–40 (Jan. 1974); CPM-7406X0399

—Energy operator for an effective semirigid rotator —V. N. Bryukhanov and Yu. S. Makushkin. **36**(3), 271–3 (Mar. 1974); CPM-7407X0957

—Calculation of the influence of electron–nuclear and spin interactions on the vibrational–rotational Hamiltonian of polyatomic nonlinear molecules —Yu. S. Makushkin and O. N. Ulenikov. **36**(6), 639–42 (Jun. 1974); CPM-7410X1001

—Probabilities of vibrational–rotational transitions in diatomic molecules —Yu. S. Makushkin and V. G. Tyuterev. **37**(1), 31–4 (Jul. 1974)

—Method of an effective nonrigid rotor in the theory of molecular vibrational–rotational spectra —Yu. S. Makushkin. **37**(4), 376–8 (Oct. 1974)

Malikina, G. A.—Intermolecular interactions and the spectra of molecules in multicomponent solutions. 4. The effect of ions on the electronic spectra of molecules in aqueous solutions —G. A. Malikina and N. G. Bakhshiev. **37**(1), 41–3 (Jul. 1974)

Malov, V. V.—Model of collective π–electron motion in molecules. Part 2 —L. V. Iogansen and V. V. Malov. **37**(1), 25–8 (Jul. 1974)

Malyi, V. I.—Spectral composition of stimulated Raman scattering of nitric acid aqueous solutions as a function of pumping level —I. Kondilenko, P. A. Korotkov, and V. I. Malyi. **36**(3), 280–2 (Mar. 1974); CPM-7407X0966

—Influence of the competition of vibrations on the spectral structure in stimulated Raman scattering —I. I. Kondilenko, P. A. Korotkov, and V. I. Malyi. **37**(4), 457–8 (Oct. 1974)

Mandzhikov, V. F.—Photochromism of spiropyrans by laser photolysis —V. A. Murin, V. F. Mandzhikov, S. G. Kuzmin, and V. A. Barachevskii. **37**(2), 216–8 (Aug. 1974)

—Investigation of the nature of intermediate products of photochromic transformations of spiropyrans —V. A. Murin, V. F. Mandzhikov, and V. A. Barachevskii. **37**(6), 674–6 (Dec. 1974)

Marchuk, Ya. P.—Calculation of some parameters of a light field in the gap of a simulator —V. E. Palamaryuk, S. G. Guminetskii, and Ya. P. Marchuk. **37**(3), 312–5 (Sep. 1974)

Mardaeva, A. I.—Absorption of aniline in the 751–cm^{-1} region near the critical solution point of an aniline–cyclohexane mixture —A. I. Mardaeva and A. F. Bondarev. **36**(6), 713–4 (Jun. 1974); CPM-7410X1075

Marennikov, S. I.—Resolving power of a nonlinear image converter in critical synchronism —A. V. Gainer, V. V. Lebedev, and S. I. Marennikov. **37**(4), 428–30 (Oct. 1974)

Markov, V. P.—Determination of the lifetime for the 4^1P_1 level of the helium atom by studying the alignment in the discharge —S. A. Kazantsev and V. P. Markov. **36**(3), 355–6 (Mar. 1974); CPM-7407X1041

Markov, Yu. F.—Vibration spectrum and optical constants of $ZnGeP_2$ single crystals —Yu. F. Markov, V. S. Grigoreva, B. S. Zadokhin, and T. V. Rybakova. **36**(1), 93–5 (Jan. 1974); CPM-7406X0453

—First- and second-order Raman spectra of Hg_3Cl_2, Hg_2Br_2, and Hg_2I_2 single crystals—Ch. Barta, A. A. Kaplyanskii, V. V. Kulakov, and Yu. F. Markov. **37**(1), 50–1 (Jul. 1974)

Marusin, V. D.—Charge exchange between helium ions and mercury atoms —i. P. Bogdanova, V. D. Marusin, and V. E. Yakhontova. **37**(4), 365–8 (Oct. 1974)

Maslov, V. G.—Raman spectra of metal phthalocyanines and their negative ions —I. V. Aleksandrov, Ya. S. Bobovich, V. G. Maslov, and A. N. Sidorov. **37**(3), 265–9 (Sep. 1974)

—Removal of the orbital degeneracy of the ground state of the zinc–etioporphyrin radical–anion in solution —V. G. Maslov. **37**(5), 580–1 (Nov. 1974)

Maslovskii, A. V.—Submillimeter spectrum and intermolecular parameters —A. V. Burenin, A. N. Valbov, L. I. Gershtein, E. N. Karyakin, A. F. Krupnov, A. V. Maslovskii, and S. M. Shchapin. **37**(6), 676–8 (Dec. 1974)

Masnou–Seeuws, F.—Approximation of a sudden change in the type of coupling for intramolecular transitions —E. I. Dashevskaya, F. Masnou–Seeuws, R. McCarroll, and E. E. Nikitin. **37**(2), 119–22 (Aug. 1974)

Masyukov, V. A.—Investigation of the continuous emission spectrum of the xenon plasma of a continuous optical discharge —G. I. Kozolov, V. A. Kuznetsov, and V. A. Masyukov. **37**(6), 601–5 (Dec. 1974)

Matskevich, V. K.—Depolarizing collisions of atoms and the broadening of spectral lines —V. K. Matskevich. **37**(3), 233–7 (Sep. 1974)

Matveev, A. Ya.—Gain in the output efficiency of lasers based on organic dye solutions —M. I. Dzyubenko, A. Ya. Matveev, and I. G. Naumenko. **37**(4), 423–5 (Oct. 1974)

Matyushkov, V. E.—Determination of the spectroscopic parameters of passive shutters made of KS–19 glass —S. A. Mikhnov, V. E. Matyushkov, and V. P. Khyuppenen. **37**(2), 190–1 (Aug. 1974)

Mavrin, B. N.—Low–frequency Raman spectra of crystalline n–paraffins —Kh. E. Sterin and B. N. Mavrin. **37**(2), 153–4 (Aug. 1974)

Mazanko, I. P.—Effect of small perturbations on the polarization of single-mode laser radiation with a homogeneous lasing transition line —I. P. Mazanko. **36**(3), 318–20 (Mar. 1974); CPM-7407X1004

Mazing, M. A.—Continuous spectrum of a pulsed discharge in helium —M. A. Mazing and V. A. Slemzin. **36**(1), 24–7 (Jan. 1974); CPM-7406X0384

—Measurement of the total cross section for electron impact excitation of a 5^3P_0 metastable level of cadmium —M. A. Mazing, V. I. Rakhovskii, G. I. Stotskii, and V. M. Shustryakov. **37**(4), 464–5 (Oct. 1974)

Mazurenko, Yu. T.—Luminescence spectrum kinetics of polar solutions —Yu. T. Mazurenko. **36**(3), 283–6 (Mar. 1974); CPM-7407X0969

—Optical saturation during high-power excitation of luminescence in the vapors of complex organic compounds —V. V. Danilov, Yu. T. Mazurenko, and M. A. Ter-Pogosyan. **37**(6), 678–80 (Dec. 1974)

McCarroll, R.—Approximation of a sudden change in the type of coupling for intramolecular transitions —E. I. Dashevskaya, F. Masnou-Seeuws, R. McCarroll, and E. E. Nikitin. **37**(2), 119–22 (Aug. 1974)

Medvedev, B. A.—Amplification of infrared radiation using induced Raman scattering in the excited vibrational levels of molecules —B. A. Medvedev and O. M. Parshov. **37**(3), 270–2 (Sep. 1974)

Medvedev, S. K.—Laser spectrum selection with telescopic resonators —V. V. Lyubimov, S. K. Medvedev, I. B. Orlova, and V. F. Petrov. **36**(4), 469–70 (Apr. 1974); CPM-7408X0251

Medvedev, V. N.—Linear stark effect in the spectra of fluorapatite crystals activated with rare-earth ions —A. A. Kaplyanskii, V. N. Medvedev, and A. P. Skvortsov. **36**(2), 213–6 (Feb. 1974); CPM-7406X0573

Meister, T. G.—Separation of the contributions from universal intermolecular interactions and intermolecular interactions and intermolecular hydrogen bonds to the observed shifts of electronic bands. 3: Study of the $n\rightarrow\sigma^*$ band of certain aliphatic ketones —G. Ya. Zelikina and T. G. Meister. **36**(1), 46–8 (Jan. 1974); CPM-7406X0406

—Determination of hydrogen bond energy in the excited electronic state shifts of electronic bands using a four-level system —T. G. Meister and V. P. Klindukhov. **36**(4), 389–90 (Apr. 1974); CPM-7408X0171

—Determination of energy of intermolecular hydrogen bond in the ground and first excitation states for the system 1-azaphenan-threne-phenylic acid —V. P. Klindukhov and T. G. Meister. **37**(2), 207–9 (Aug. 1974)

—Separation of the contributions from universal intermolecular interactions and intermolecular hydrogen bonding in the observed shifts of electronic bands. 4: Electronic transitions of different character ($n\rightarrow\pi^*$ and $\pi\rightarrow\pi^*$) —T. G. Meister, G. Ya. Zelikina, L. V. Golovina, and V. V. Fesik. **37**(5), 516–20 (Nov. 1974)

Melekhin, G. V.—Lasing line shapes in the $3s_2$–$2p_4$ and $2s_2$–$2p_4$ transitions of He–Ne laser —G. V. Melekhin. **36**(2), 221–2 (Feb. 1974); CPM-7406X0581

Melnik, V. I.—Phosphorescence of naphthalene crystals with surface impurities —V. K. Kravets, V. I. Melnik, and M. T. Shpak. **37**(5), 527–8 (Nov. 1974)

Melnikov, L. A.—Dispersion characteristic of a He–Ne laser at 0.6328 micron —G. G. Akchurin, M. L. Kats, L. A. Melnikov, V. A. Sedelnikova, and V. V. Tuchin. **37**(1), 87–9 (Jul. 1974)

Melnikov, V. V.—Investigation of the acoustooptical properties of glasses of the As–S–I–Sb system —I. I. Adrianova, L. N. Asnis, V. V. Melnikov, and A. V. Petrova. **37**(4), 444–5 (Oct. 1974)

Men, A. N.—Infrared spectra of spinel solid solutions and their description by the cluster components method —V. M. Talanov, B. N. Varskoi, Yu. P. Vorobev, A. A. Iovlev, A. N. Men, and A. V. Serebryakova. **37**(2), 212–3 (Aug. 1974)

Mikava, L. V.—Transfer of electronic excitation energy in a liquid solution. 4: Transfer due to exchange interaction —L. V. Mikava and I. M. Rozman. **36**(2), 200–2 (Feb. 1974); CPM-7406X0560

Mikhailov, A. A.—Electromagnetic radiation due to symmetric ion–atom collisions —G. F. Drukarev and A. A. Mikhailov. **37**(2), 220–1 (Aug. 1974)

Mikhailov, A. B.—Influence of the Penning effect on electron–ion recombination in a helium arc plasma —V. Ya. Aleksandrov, D. B. Gurevich, A. B. Mikhailov, and I. V. Podmoshenskii. **37**(5), 489–91 (Nov. 1974)

Mikhailov, V. M.—Determination of the signs of the electrooptical parameters from experimental data on dipole moments —V. M. Mikhailov and M. R. Aliev. **36**(3), 351–2 (Mar. 1974); CPM-7407X1037

Mikhelashvili, M. S.—Luminescence kinetics of rigid solutions with energy transfer. 4: The law of luminescence decay of the acceptor for the transfer due to dipole–dipole interaction —M. S. Mikhelashvili, I. M. Rozman, and T. S. Tsulaya. **36**(2), 203–4 (Feb. 1974); CPM-7406X0563

Mikhnov, S. A.—Determination of the spectroscopic parameters of passive shutters made of KS–19 glass —S. A. Mikhnov, V. E. Matyushkov, and V. P. Khyuppenen. **37**(2), 190–1 (Aug. 1974)

Mikho, V. V.—Effect of sorption of water vapor and of vapors of certain organic substances on the electroluminescence spectrum of aluminum–oxide films —A. P. Fedchuk and V. V. Mikho. **36**(6), 705 (Jun. 1974); CPM-7410X1067

—Adsorption nature of associative luminescence centers in aluminum oxide —A. P. Fedchuk and V. V. Mikho. **37**(5), 569–70 (Nov. 1974)

Miloslavskii, V. K.—Optical constants for the region of CuI exciton absorption —L. A. Ageev, V. K. Miloslavskii, and T. I. Maksimenko. **36**(1), 76–9 (Jan. 1974); CPM-7406X0436

Minaev, B. F.—Calculation of the g-factor anisotropy in the approximation of total neglect of differential overlapping while including spin–orbital interaction —B. F. Minaev. **36**(2), 159–61 (Feb. 1974); CPM-7406X0519

Minkov, B. I.—Temperature shift and broadening of Nd^{3+} ion levels in $CaWO_4$, $CaMoO_4$, and $PbMoO_4$ crystals —V. I. Bonchkovskii, B. I. Minkov, S. A. Sazonova, and B. S. Skorobogatov. **36**(5), 608–9 (May 1974); CPM-7409X1536

Minkov, I. M.—Transmission and reflection of light by stratified plane-parallel anisotropic media —I. M. Minkov. **37**(2), 177–80 (Aug. 1974)

—Low-reflection thin-layer coatings for oblique incidence of light —I. M. Minkov. **37**(3), 332–5 (Sep. 1974)

—Computation of thin-layer coatings with specified optical properties —I. M. Minkov and V. V. Veremei. **37**(5), 571–3 (Nov. 1974)

Mirovitskii, D. I.—Optical analog synthesizer —D. I. Mirovitskii, V. A. Torgovanov, and G. P. Cherkunova. **37**(1), 101–3 (Jul. 1974)

Mirumyants, S. O.—New data on the quasilinear fluorescence spectrum of anthracene vapor —S. O. Mirumyants, E. A. Vanbynkov, Yu. S. Demchuk, and Yu. S. Nagulin. **36**(1), 52–4 (Jan. 1974); CPM-7406X0412

Mishina, L. A.—Nature of centers of quasi-line absorption and fluorescence in frozen n-paraffin solutions of aromatic compounds. 1: Occurrence of interactions between molecules of the dissolved substance and centers of quasi-line absorption —G. V. Kleshchev, A. I. Lyamaev, L. A. Mishina, and L. A. Nakhimovskaya. **36**(1), 49–51 (Jan. 1974); CPM-7406X0409

—Nature of the quasi-line absorption and fluorescence centers in frozen n-paraffin solutions of aromatic compounds. 2: Spatial separation of the types of center —L. A. Mishina and L. A. Nakhimovskaya. **36**(3), 298–9 (Mar. 1974); CPM-7407X0984

Mitkina, N. N.—Luminescence kinetics of the dissociated forms of europium benzoylacetonate. Part 2 —R. A. Puko, V. S. Khomenko, V. V. Kuznetsova, N. N. Mitkina, and T. I. Razvina. **36**(3), 294–7 (Mar. 1974); CPM-7407X0980

Mitrofanov, N. K.—Excitation of atomic lines in the positive column of a stratified discharge in hydrogen —Yu. M. Kagan and N. K. Mitrofanov. **36**(1), 28–31 (Jan. 1974); CPM-7406X0388

Mkhitaryan, A. Kh.—Radiation of electrons moving toward a silver surface at grazing angles. Radiation on surface irregularities —F. R. Arutyunyan, A. Kh. Mkhitaryan, R. A. Oganesyan, and B. O. Rostomyan. **36**(6), 672–4 (Jun. 1974); CPM-7410X1034

Mogilnitskii, B. S.—Amplification of some types of laser action in a hallow-cathode discharge —B. S. Mogilnitskii. **37**(2), 132–5 (Aug. 1974)

—Production of narrow resonances in a long iodine absorption cell —V. I. Bobrik, Yu. D. Kolominkov, and B. S. Mogilnitskii. **37**(3), 343 (Sep. 1974)

Molchanov, A. V.—Interferometric method for measuring the intensity of time-varying strong magnetic fields —A. V. Molchanov and R. I. Semenov. **37**(3), 348–9 (Sep. 1974)

Molchanova, L. I.—Measurement of quantum yield of the intercombination conversion in phthalocyanine solutions —A. V. Butenin, B. Ya. Kogan, E. A. Lukyanets, and L. I. Molchanova. **37**(4), 395–7 (Oct. 1974)

Molodenkova, I. D.—Use of the regularization method for determining the true profiles of spectral lines —I. D. Molodenkova and I. F. Kovalev. 36(2), 166–7 (Feb. 1974); CPM-7406X0526
—Calculation of the intensities in the infrared spectra of molecules by the MO LCAO method in the approximation of neglecting two–atom differential overlap —Yu. V. Kamenskii, I. F. Kovalev, and I. D. Molodenkova. 37(4), 379–80 (Oct. 1974)
Monozon, B. S.—Electroabsorption of polarized light in the region of the yellow exciton series of a Cu_2 crystal; a theory —A. G. Zhilich and B. S. Monozon. 36(1), 80–2 (Jan. 1974); CPM-7406X0440
Morina, V. F.—Mechanism of energy transfer from ketones to rare earth ions. 4: effect of solvent and temperature. Intramolecular and diffusion transfer —E. B. Sveshnikova, V. F. Morina, and V. L. Ermolaev. 36(4), 421–5 (Apr. 1974); CPM-7408X0203
Morozov, V. A.—Theory of the spectrum of circular dichroism for molecules having overlapping absorption bands. Nondiagonal matrix of radiationless decay —V. A. Morozov. 37(1), 61–4 (Jul. 1974)
—Optical activity of a molecule with nondiagonal decay and rotational force matrices —V. A. Morozov. 37(3), 246–9 (Sep. 1974)
—Allowance for delayed interaction in the theory of the exciton optical activity of molecules —V. A. Morozov. 37(6), 627–8 (Dec. 1974)
Morozova, N. K.—Ultra violet spectra of some zinc sulfide polytypes and crystals with stacking faults —N. K. Morozova, L. V. Gamosov, and E. E. Lakin. 37(6), 639–42 (Dec. 1974)
Moskalenko, S. A.—Two–exciton radiative recombination in semicondcutors at high levels of excitation —P. I. Khadzhi and S. A. Moskalenko. 37(5), 544–6 (Nov. 1974)
Moskalev, V. A.—Double–beam three–plate interferometer with polarizing elements —V. Kh. Goikman, G. M. Izakson, and V. A. Moskalev. 36(1), 121–2 (Jan. 1974); CPM-7406X0481
—Use of bands of equal chromatic order for investigating anomalous dispersion —V. A. Moskalev, I. M. Nagibina, and N. A. Polushkina. 37(5), 558–9 (Nov. 1974)
Moskaleva, M. A.—Davydov splitting in the vibrational spectra of molecular crystals. 3: Variation of Davydov splitting with concentration in their spectrum of crystalline solutions of cyclohexane in cyclohexane–d_{12} —M. A. Moskaleva and G. N. Zhizhin. 36(5), 535–6 (May 1974); CPM-7409X1463
—Davydov splitting in the vibrational spectra of molecular crystals. 4. Mixed crystals of naphthalene and naphthalene–d_8 —G. N. Zhizhin and M. A. Moskaleva. 37(1), 52–4 (Jul. 1974)
Motulevich, G. P.—Optical properties of palladium in the visible and near ir regions of the spectrum —Zh. Duisebaeva, M. I. Korsunskii, and G. P. Motulevich. 37(1), 82–3 (Jul. 1974)
Mozhaev, V. V.—Measurement of optical constants of materials in the 4–30 cm^{-1} region by a Michelson interferometer —F. F. Igoshin, A. P. Kiryanov, V. V. Mozhaev, M. A. Tulaikova, and A. A. Sheronov. 36(6), 669–71 (Jun. 1974); CPM-7410X1031
Mozhaiskii, V. N.—Some problems of the theory of acoustics modulating and deflecting devices —V. N. Mozhaiskii and A. S. Sonin. 37(2), 192–5 (Aug. 1974)
Mumladze, V. V.—Effect of solvent on the nonlinear properties of solutions of organic dyes —E. B. Aslanidi, A. I. Kurasbediani, B. S. Lezhava, and V. V. Mumladze. 37(3), 273–5 (Sep. 1974)
Murin, V. A.—Photochromism of spiropyrans by laser photolysis —V. A. Murin, V. F. Mandzhikov, S. G. Kuzmin, and V. A. Barachevskii. 37(2), 216–8 (Aug. 1974)
—Investigation of the nature of intermediate products of photochromic transformations of spiropyrans —V. A. Murin, V. F. Mandzhikov, and V. A. Barachevskii. 37(6), 674–6 (Dec. 1974)
Murina, T. A.—Frequency splitting of the oppositely traveling waves in a ring laser with a Gaussian diaphragm —V. F. Boitsov, T. A. Murina, and E. E. Fradkin. 36(3), 311–4 (Mar. 1974); CPM-7407X0997
—Angular divergence of the field and minimum light spots in a ring cavity with a Gaussian diaphragm —V. F. Boitsov and T. A. Murina. 37(1), 84–6 (Jul. 1974)
Mushkin, Yu. I.—Calculation of the vibrational spectra of cyanuric and trithiocyanuric acids —B. Ya. Shtenberg, Yu. I. Mushkin, and A. I. Finkelshtein. 36(5), 525–7 (May 1974); CPM-7409X1453
Mustafin, K. S.—Anamorphotic properties of holographic optical elements —G. N. Buinov and K. S. Mustafin. 36(3), 343 (Mar. 1974); CPM-7407X1029
—The use of higher diffraction orders of holograms employed as optical components —G. N. Buinov, A. V. Lukin, and K. S. Mustafin. 37(1), 98–100 (Jul. 1974)
—Image multiplication using uniaxial holograms —G. N. Buinov, I. E. Kit, K. S. Mustafin, and M. I. Savrasova. 37(2), 196–7 (Aug. 1974)
—Aberrations of thin holograms produced on a spherical substrate — K. S. Mustafin. 37(6), 664–6 (Dec. 1974)
Mustafina, L. T.—Method of compensating aberrations in holographic interferometry of increased sensitivity —V. L. Afanaseva, L. T. Mustafina, and V. A. Seleznev. 37(4), 448–9 (Oct. 1974)
Mykityuk, V. I.—Propagation of laser radiation in randomly magnetized ferrite garnets —A. A. Solomko and V. I. Mykityuk. 36(2), 236–9 (Feb. 1974); CPM-7406X0596
—Diffraction of laser radiation by a magnetic grating —A. A. Solomko and V. I. Mykityuk. 36(5), 584–6 (May 1974); CPM-7409X1512

N

Naberukhin, Yu. I.—Effect of hydrogen bond and internal field on the Raman line intensity in the CD_3OH–CCl_4 system —N. L. Lavrik and Yu. I. Naberukhin. 37(1), 44–7 (Jul. 1974)
Nagibina, I. M.—Use of bands of equal chromatic order for investigating anomalous dispersion —V. A. Moskalev, I. M. Nagibina, and N. A. Polushkina. 37(5), 558–9 (Nov. 1974)
Nagli, L. E.—Mechanism of the origin and kinetics of luminescence of I^{++} and $In^{++}v_c^-$ centers in a KCl–In crystal —L. E. Nagli. 37 (5), 541–3 (Nov. 1974)
Nagulin, Yu. S.—New data on the quasilinear fluorescence spectrum of anthracene vapor —S. O. Mirumyants, E. A. Vanbynkov, Yu. S. Demchuk, and Yu. S. Nagulin. 36(1), 52–4 (Jan. 1974); CPM-7406X0412
Nakhimovskaya, L. A.—Nature of centers of quasi–line absorption and fluorescence in frozen n–paraffin solutions of aromatic compounds. 1: Occurrence of interactions between molecules of the dissolved substance and centers of quasi–line absorption —G. V. Kleshchev, A. I. Lyamaev, L. A. Mishina, and L. A. Nakhimovskaya. 36(1), 49–51 (Jan. 1974); CPM-7406X0409
—Nature of the quasi–line absorption and fluorescence centers in frozen n–paraffin solutions of aromatic compounds. 2: Spatial separation of the types of center —L. A. Mishina and L. A. Nakhimovskaya. 36(3), 298–9 (Mar. 1974); CPM-7407X0984
—Electronic and vibrational states of biphenyl–based molecules. 3: Determination of the polarization of the electronic and electronic–vibrational transitions of the carbazole and dibenzofuran molecules from the hypochromy in their crystal spectra —V. L. Grebneva, L. A. Nakhimovskaya, K. R. Popov, L. V. Smirnov, and G. V. Sukhina. 37(5), 504–6 (Nov. 1974)
—Electronic and vibrational states of molecules based on biphenyl. 4: classification of the electronic transitions —K. R. Popov, L. V. Smirnov, V. L. Grebneva, and L. A. Nakhimovskaya. 37(6), 613–6 (Dec. 1974)
Naumenko, I. G.—Gain in the output efficiency of lasers based on organic dye solutions —M. I. Dzyubenko, A. Ya. Matveev, and I. G. Naumenko. 37(4), 423–5 (Oct. 1974)
Nedzvetskaya, I. V.—Absorption and luminescence excitation spectra of KI–Ag, K_3AgI_2, and AgI —I. V. Nedzvetskaya. 36(1), 83–5 (Jan. 1974); CPM-7406X0443
Nedzvetskii, D. S.—Absorption and luminescence spectra of the 4152–Å system in diamond crystals using the modulation technique —D. S. Nedzvetskii and V. A. Gaisin. 36(1), 123–5 (Jan. 1974); CPM-7406X0483
Nefedev, L. A.—Stimulated light echo and inelastic collisions of particles in a low–temperature plasma —L. A. Nefedev and V. V. Samartsev. 37(6), 673–4 (Dec. 1974)
Nefedova, E. V.—Electrooptical effect in lead magnesium biobate crystals of pyrochlore structure —I. I. Adrianova, A. A. Berezhnoi, E. V. Nefedova, V. A. Pismennyi, Yu. V. Popov, and K. P. Skornyakova. 36(5), 547–8 (May 1974); CPM-7409X1475
Neporent, B. S.—Fluorescence quenching of organic vapors by a radiation field —V. L. Bogdanov, V. P. Klochkov, and B. S. Neporent. 37(2), 214–5 (Aug. 1974)
—Determination of the probabilities of relaxation processes in complex organic molecules from the relaxation shift of laser spectra—B. S. Neporent, V. B. Shilov, and G. V. Lukomskii. 37 (6), 682–3 (Dec. 1974)

Nestrizhenko, Yu. A.—Design of laser polarizers based on total internal reflection —Yu. A. Nestrizhenko. **36**(1), 109–11 (Jan. 1974); CPM-7406X0469

—Efficient polarization of laser radiation by a prism with small birefringence —Yu. A. Nestrizhenko, O. G. Dalchenko, A. P. Pyatikop, and V. V. Shevchenko. **36**(3), 321–3 (Mar. 1974); CPM-7407X1007

—Total–internal–reflection polarizer as an interference–polarization filter for a laser —Yu. A. Nestrizhenko. **37**(2), 186–9 (Aug. 1974)

Nikitin, E. E.—Approximation of a sudden change in the type of coupling for intramolecular transitions —E. I. Dashevskaya, F. Masnou–Seeuws, R. McCarroll, and E. E. Nikitin. **37**(2), 119–22 (Aug. 1974)

Nikitin, L. P.—Temperature dependence of the non–equilibrium luminescence of pairs of second neighbors of chromium ions in ruby —A. A. Vydrik, L. P. Nikitin, A. Ya. Ryskin, and Z. M. Khashkhozhev. **37**(3), 347–8 (Sep. 1974)

Nikitinskaya, T. I.—Luminescence and color centers in LiF single crystals under x–ray excitation —N. N. Ershov, G. M. Zakharov, T. I. Nikitinskaya, and P. A. Rodnyi. **36**(1), 122–3 (Jan. 1974); CPM-7406X0482

Nikogosyan, D. N.—Nonlinear frequency converter as an infrared spectrometer and receiver —E. N. Antonov, V. G. Koloshnikov, and D. N. Nikogosyan. **36**(4), 446–8 (Apr. 1974); CPM-7408X0228

Nikolaevskii, L. S.—Recombination radiation and bremsstrahlung of an oxygen plasma —N. S. Gruzdeva, L. S. Nikolaevskii, and I. V. Podmoshenskii. **36**(5), 501–2 (May 1974); CPM-7409X1429

—Continuum intensity of an air plasma at T = 20,000 K —V. Yu. Vinogradov, L. S. Nikolaevskii, and I. V. Podmoshenskii. **37**(2), 222 (Aug. 1974)

—Investigation of the equilibrium in a doubly ionized argon plasma — N. S. Gruzdeva, L. S. Nikolaevskii, and I. V. Podmoshenskii. **37**(5), 574–6 (Nov. 1974)

—Spectroscopic study of nonequilibrium in highly ionized helium — N. S. Gruzdeva, L. S. Nikolaevskii, and I. V. Podmoshenskii. **37**(6), 591–4 (Dec. 1974)

Nikulin, N. G.—Transient optical second–harmonic excitation with phase mismatch —G. V. Krivoshchekov, N. G. Nikulin, and V. I. Stroganov. **36**(3), 335–7 (Mar. 1974); CPM-7407X1021

Nosenko, B. M.—Molecular scattering of light in liquid dioxane — Sh. O. Otazhonov, A. A. Aivazova, and B. M. Nosenko. **36**(2), 217–8 (Feb. 1974); CPM-7406X0577

Noskova, M. P.—Calculation of the infrared absorption spectrum of ethylamine —L. A. Gribov, M. P. Noskova, and I. N. Krupennikova. **36**(4), 466–7 (Apr. 1974); CPM-7408X0248

Novikov, L. N.—Level crossover in the ground and excited states in a zero field during alignment of Hg^{201} atoms by the 2537 Å line — L. N. Novikov and S. L. Votyakov. **36**(2), 138–40 (Feb. 1974); CPM-7406X0498

—Calculation of the efficiency of optical orientation and recording of nuclear polarization for Hg^{199} and Hg^{201} by 2537–Å radiation from a lamp with the natural mixture of isotopes —O. A. Bartenev and L. N. Novikov. **36**(4), 371–4 (Apr. 1974); CPM-7408X0153

—Lineshape of nuclear magnetic resonance of optically oriented Hg^{201} atoms —O. A. Bartenev, S. L. Votyakov, and L. N. Novikov. **36**(5), 493–4 (May 1974); CPM-7409X1421

—Nuclear magnetic resonance of optically oriented atoms induced by a nonuniform static transverse magnetic field —L. N. Novikov, S. L. Votyakov, and V. P. Putyrskii. **36**(5), 495–6 (May 1974); CPM-7409X1423

—Line shape for a nuclear magnetic resonance of an optically oriented atomic system in a nonuniform radiofrequency field —S. L. Votyakov, S. P. Dovgopol, L. N. Novikov, and V. P. Putyrskii. **36**(6), 611–4 (Jun. 1974); CPM-7410X0973

Novikova, G. L.—Concentration dependence of Raman linewidth in high–viscosity solutions —N. K. Sidorov, L. S. Stalmakhova, and G. L. Novikova. **37**(1), 48–9 (Jul. 1974)

O

Odarich, V. A.—Method of refractive–index measurement for transparent substances —V. A. Odarich. **37**(4), 431–3 (Oct. 1974)

Odintsov, A. I.—Investigation of several characteristics of an He—Cd laser —F. A. Korolev, A. I. Odintsov, T. V. Feofilaktova, and N. I. Kalinovskaya. **37**(6), 669–70 (Dec. 1974)

Oganesyan, R. A.—Radiation of electrons moving toward a silver surface at grazing angles. Radiation on surface irregularities —F. R. Arutyunyan, A. Kh. Mkhitaryan, R. A. Oganesyan, and B. O. Rostomyan. **36**(6), 672–4 (Jun. 1974); CPM-7410X1034

Ogorodnik, K. Z.—Infrared spectra and orientation of molecules in an alpha–CuPC sublimated layer —K. Z. Ogorodnik. **37**(3), 339–40 (Sep. 1974)

Ogurtsov, I. Ya.—Rotational spectra of dipolar–unstable symmetrical polyatomic systems —I. B. Bersuker, I. Ya. Ogurtsov, and Yu. V. Shaparev. **36**(2), 181–4 (Feb. 1974); CPM-7406X0541

Okunevich, A. I.—Collision depolarization of optically oriented Xe atoms in a metastable $^3P_2$ state at nitrogen and room temperatures —R. A. Zhitnikov and A. I. Okunevich. **36**(2), 253–4 (Feb. 1974); CPM-7406X0613

Orekhov, B. A.—Determination of the symmetry of the normal vibrations and factor–group analysis of the fluoroapatite crystal — D. K. Arkhipenko, V. N. Stolpovskaya, and B. A. Orekhov. **36**(4), 411–2 (Apr. 1974); CPM-7408X0193

Orlova, I. B.—Laser spectrum selection with telescopic resonators — V. V. Lyubimov, S. K. Medvedev, I. B. Orlova, and V. F. Petrov. **36**(4), 469–70 (Apr. 1974); CPM-7408X0251

Orlova, N. D.—Structure of the vibrational band of hydrogen in various liquid solutions —N. D. Orlova and L. A. Pozdnyakova. **36**(6), 712–3 (Jun. 1974); CPM-7410X1074

—Spectrum of Raman scattering of hydrogen in some liquid solutions —N. D. Orlova, L. A. Pozdnyakova, and E. B. Khodos. **37**(3), 340–1 (Sep. 1974)

Orlovskaya, L. V.—Spectral properties of alpha–methyl and alpha–silyketones. 1: Use of the method of complete disregard of differential overlapping in studying the spectral properties of the acetone molecule —L. V. Orlovskaya, I. V. Sokolova, and A. F. Terpugova. **36**(5), 512–5 (May 1974); CPM-7409X1440

Oseledchik, Yu. S.—Effect of coherent properties of radiation on the Doppler shape of an absorption spectrum —Yu. S. Oseledchik. **37**(3), 242–5 (Sep. 1974)

Osherovich, A. L. ,—Lifetimes of the $^1P^0_1$ level of YbI and the $^2P^0_{3/2,1/2}$ level of YbII —M. L. Burshtein, Ya. F. Verolainen, V. A. Komarovskii, A. L. Osherovich , and N. P. Penkin. **37**(4), 351–2 (Oct. 1974)

Ostrovskaya, G. V.—Wave intensities of higher orders reconstructed by a nonlinearly recorded hologram —A. V. Alekseev–Popov, I. I. Komissarova, and G. V. Ostrovskaya. **37**(6), 656–9 (Dec. 1974)

Otazhonov, Sh. O.—Molecular scattering of light in liquid dioxane — Sh. O. Otazhonov, A. A. Aivazova, and B. M. Nosenko. **36**(2), 217–8 (Feb. 1974); CPM-7406X0577

Ovchinnikov, A. A.—Optical absorption in the long–wavelength region and paramagnetism of polymers with conjugated bonds —A. A. Berlin, G. A. Vinogradov, and A. A. Ovchinnikov. **36**(3), 354–5 (Mar. 1974); CPM-7407X1040

Ovechkin, A. E.—Continuous spectrum in the vacuum ultraviolet region emitted by a supersonic argon jet excited by an electron beam —E. T. Verkhovtseva, V. I. Yaremenko, A. E. Ovechkin, and Ya. M. Fogel. **37**(2), 126–8 (Aug. 1974)

P

Palamaryuk, V. E.—Calculation of some parameters of a light field in the gap of a simulator —V. E. Palamaryuk, S. G. Guminetskii, and Ya. P. Marchuk. **37**(3), 312–5 (Sep. 1974)

Panasenko, A. G.—π–Electron system in a strong magnetic field —V. Z. Kresin, V. A. Litovchenko, and A. G. Panasenko. **37**(2), 149–52 (Aug. 1974)

Panfilova, L. B.—Silver layers cleared by dielectric coatings —L. B. Panfilova and Yu. F. Skachkov. **37**(4), 440–1 (Oct. 1974)

Pankratov, N. A.—Supercooled germanium bolometer for the near ir region —N. A. Pankratov and V. P. Korotkov. **37**(1), 108–10 (Jul. 1974)

Pankratova, T. F.—Natural frequencies and polarizations of a ring resonator —T. F. Pankratova. **36**(5), 569–71 (May 1974); CPM-7409X1497

Papulovskii, V. F.—Saturation in molecular systems —V. F. Papulovskii. **37**(2), 142–3 (Aug. 1974)

Paramonov, A. A.—Investigation of geometrical distortions produced by a television system for receiving and transmitting holograms — A. D. Galpern and A. A. Paramonov. **37**(3), 304–7 (Sep. 1974)

Parshov, O. M.—Amplification of infrared radiation using induced Raman scattering in the excited vibrational levels of molecules — B. A. Medvedev and O. M. Parshov. **37**(3), 270–2 (Sep. 1974)

Paskalev, K.—Investigation of the positive column of discharge in helium at moderate pressures. Part 1. —Yu. M. Kagan and K. Paskalev. **37**(2), 129–31 (Aug. 1974)

Pastor, A. A.—Observation of a dissociative recombination of a molecular helium ion in the early afterflow of a discharge —V. S. Egorov, A. A. Pastor, V. V. Samokhvalov, and A. A. Solovev. **37** (5), 563–5 (Nov. 1974)

Pel, E. G.—Interferometric measurements of the linewidths of the emission of a pulsed PbSe injection laser —V. A. Ageikin, I. I. Zasavitskii, V. G. Koloshnikov, A. I. Likhter, E. G. Pel, and A. P. Shotov. **36**(4), 471–2 (Apr. 1974); CPM-7408X0253

Penkin, N. P.—Broadening by inert gases of europium lines due to $a^8_{7/2} - y^8P_{9/2,7/2,5/2}$ transitions —N. P. Penkin and L. N. Shabanova. **36**(1), 10–2 (Jan. 1974); CPM-7406X0370

—Temperature dependence of diffusion coefficients of excited $6^3P_{0,2}$ mercury atoms in mercury vapor —N. P. Penkin and T. P. Redko. **36**(2), 132–5 (Feb. 1974); CPM-7406X0492

—Cross sections for electron–impact excitation and mixing of the $6^3P_{0,1,2}$ levels of a mercury atom —N. P. Penkin and T. P. Redko. **36**(3), 258–61 (Mar. 1974); CPM-7407X0944

—Relative values of oscillator strengths for spectral lines of Dy I —N. P. Penkin, V. A. Komarovskii, and V. V. Smirnov. **37**(3), 223–4 (Sep. 1974)

—Lifetimes of the $^3P^0_1$ level of YbI and the $^2P^0_{3/2,1/2}$ level of YbII — M. L. Burshtein, Ya. F. Verolainen, V. A. Komarovskii, A. L. Osherovich , and N. P. Penkin. **37**(4), 351–2 (Oct. 1974)

—Diffusion coefficient for metastable atoms of mercury in argon —N. P. Penkin, T. P. Redko, and N. A. Kryukov. **37**(4), 461–2 (Oct. 1974)

Pentin, Yu. A.—Calculation of the frequencies and forms of the normal vibrations of the gauche and trans rotational isomers of 2–chloro– and 2–bromoethylamine —L. V. Sennitskaya, Yu. D. Timoshenkova, Yu. A. Pentin, and B. S. Kikot. **37**(2), 139–41 (Aug. 1974)

Perel, V. I.—The effect of movement of an additional mirror on the intensity produced by a gas laser —V. I. Perel and M. B. Tendler. **37**(3), 322–4 (Sep. 1974)

Personov, R. I.—Line spectra of phthalocyanines at 4.2 K and certain special features of their multiplet structure —O. N. Koromaev and R. I. Personov. **37**(5), 507–9 (Nov. 1974)

Pertsev, A. N.—Scintillation mechanism in NaI–Tl —I. R. Gulakov and A. N. Pertsev. **36**(1), 67–9 (Jan. 1974); CPM-7406X0427

Petrashen, A. G.—Calculation of probabilities for collision–induced transitions between levels of hyperfine structure of atoms —V. N. Rebane and A. G. Petrashen. **37**(5), 472–5 (Nov. 1974)

Petrov, G. D.—Plasma diagnostics in the far–infrared (submillimeter) region using a Mach–Zehnder interferometer —A. N. Kolerov and G. D. Petrov. **37**(3), 342 (Sep. 1974)

—Negative absorption in the region of laser–emission focusing with free–free transitions —V. A. Zhuravlev and G. D. Petrov. **37**(4), 441–2 (Oct. 1974)

Petrov, V. F.—Laser spectrum selection with telescopic resonators — V. V. Lyubimov, S. K. Medvedev, I. B. Orlova, and V. F. Petrov. **36**(4), 469–70 (Apr. 1974); CPM-7408X0251

Petrova, A. V.—Investigation of the acoustooptical properties of glasses of the As–S–I–Sb system —I. I. Adrianova, L. N. Asnis, V. V. Melnikov, and A. V. Petrova. **37**(4), 444–5 (Oct. 1974)

Pettsold, R.—Photoelectron spectra of a number of substitution products of thiophosphoryl chloride —V. I. Vovna, S. N. Lopatin, R. Pettsold, F. I. Vilesov, and M. E. Akopyan. **36**(1), 99–102 (Jan. 1974); CPM-7406X0459

Pilipenko, D. V.—Excitation of CH_4 and C_2H_2 molecules by electron impact —V. T. Koppe, N. P. Danilevskii, A. G. Koval, and D. V. Pilipenko. **36**(3), 347–8 (Mar. 1974); CPM-7407X1033

Pismennyi, V. A.—Electrooptical effect in lead magnesium biobate crystals of pyrochlore structure —I. I. Adrianova, A. A. Berezhnoi, E. V. Nefedova, V. A. Pismennyi, Yu. V. Popov, and K. P. Skornyakova. **36**(5), 547–8 (May 1974); CPM-7409X1475

Plachenov, B. T.—Electron color centers in CsBr —G. E. Gladyshev, V. P. Avdonin, and B. T. Plachenov. **37**(2), 206–7 (Aug. 1974)

Platova, A. G.—Measurement of the pressure broadening and shift of the NH_3 vibration–rotation line (asQ(5,3) ν_2) by the method of out–of–resonance CO_2 laser radiation —V. S. Letokhov, A. G. Platova, and O. A. Tumanov. **37**(1), 29–30 (Jul. 1974)

Plekhanov, VI. G.—Polarized luminescence from unactivated lead chloride crystals —G. G. Liidya and VI. G. Plekhanov. **36**(5), 553–5 (May 1974); CPM-7409X1481

Plekhotin, G. A.—Possibilities of using an unformed Rozhdestvenskii hook to determine the Nfl value —Yu. G. Kozlov and G. A. Plekhotin. **36**(5), 600 (May 1974); CPM-7409X1528

Podmoshenskii, I. V.—Plasma production by photoionization of a gas —I. V. Dvornikov, L. V. Kulagina, I. V. Podmoshenskii, and A. V. Yakovleva. **36**(1), 22–3 (Jan. 1974); CPM-7406X0382

—Recombination radiation and bremsstrahlung of an oxygen plasma —N. S. Gruzdeva, L. S. Nikolaevskii, and I. V. Podmoshenskii. **36** (5), 501–2 (May 1974); CPM-7409X1429

—Continuum intensity of an air plasma at T=20,000 K —V. Yu. Vinogradov, L. S. Nikolaevskii, and I. V. Podmoshenskii. **37**(2), 222 (Aug. 1974)

—Spectroscopic determination of ionization equilibrium by modulation of a discharge current —V. Ya. Aleksandrov, N. S. Gruzdeva, and I. V. Podmoshenskii. **37**(4), 369–71 (Oct. 1974)

—Influence of the Penning effect on electron–ion recombination in a helium arc plasma —V. Ya. Aleksandrov, D. B. Gurevich, A. B. Mikhailov, and I. V. Podmoshenskii. **37**(5), 489–91 (Nov. 1974)

—Investigation of the equilibrium in a doubly ionized argon plasma — N. S. Gruzdeva, L. S. Nikolaevskii, and I. V. Podmoshenskii. **37** (5), 574–6 (Nov. 1974)

—Spectroscopic study of nonequilibrium in highly ionized helium — N. S. Gruzdeva, L. S. Nikolaevskii, and I. V. Podmoshenskii. **37** (6), 591–4 (Dec. 1974)

Podobedova, L. I.—Transitions in multiply charged berylliumlike ions —E. Ya. Kononov, K. N. Koshelev, and L. I. Podobedova. **37**(1), 1–3 (Jul. 1974)

Pogorelov, V. E.—Vibrational and rotational relaxation of molecules in several liquids on the basis of Raman spectra —A. E. Boldeskul, S. S. Esman, and V. E. Pogorelov. **37**(5), 521–4 (Nov. 1974)

Polak, L. S.—Deviation from ionization equilibrium in a two–temperature mixture of atomic gases —L. S. Polak and D. I. Slovetskii. **36**(6), 618–9 (Jun. 1974); CPM-7410X0980

Poltinnikova, T. M.—The effect of 4f electrons on the structure of x–ray spectra —Demekhin and T. M. Poltinnikova. **36**(4), 386–8 (Apr. 1974); CPM-7408X0168

Polushkina, N. A.—Use of bands of equal chromatic order for investigating anomalous dispersion —V. A. Moskalev, I. M. Nagibina, and N. A. Polushkina. **37**(5), 558–9 (Nov. 1974)

Polyanskii, M. N.—Possibility of determining the recombination and diffusion coefficients by the low impurity method —M. N. Polyanskii, N. V. Remizov, V. N. Skrebov, and A. M. Shukhtin. **36**(1), 32–4 (Jan. 1974); CPM-7406X0392

Polyanskii, V. K.—Possibility of a single approach to the classical and holographic methods of producing an optical image —T. Ya. Zakshetskaya, L. V. Kovalskii, and V. K. Polyanskii. **37**(1), 95–7 (Jul. 1974)

Poplavko, Yu. M.—Vibrational spectra of rhombically distorted preovskites —A. S. Knyazev, V. P. Zakharov, and Yu. M. Poplavko. **36**(5), 556–8 (May 1974); CPM-7409X1484

Popov, K. R.—Determination of the polarization of electronic transitions in molecules of low symmetry by the dichroism method. 2: monosubstituted naphthalenes —K. R. Popov. **36**(1), 65–6 (Jan. 1974); CPM-7406X0425

—Polarization of electronic transitions in the absorption spectrum of benzalaniline —S. P. Maiburov, K. R. Popov, and L. V. Smirnov. **37**(2), 205–6 (Aug. 1974)

—Electronic and vibrational states of biphenyl–based molecules. 3: Determination of the polarization of the electronic and electronic–vibrational transitions of the carbazole and dibenzofuran molecules from the hypochromy in their crystal spectra —V. L. Grebneva, L. A. Nakhimovskaya, K. R. Popov, L. V. Smirnov, and G. V. Sukhina. **37**(5), 504–6 (Nov. 1974)

—Electronic and vibrational states of molecules based on biphenyl. 4: classification of the electronic transitions —K. R. Popov, L. V. Smirnov, V. L. Grebneva, and L. A. Nakhimovskaya. **37**(6), 613–6 (Dec. 1974)

Popov, M. M.—Diffraction losses of open resonators —M. M. Popov. **36**(3), 324–7 (Mar. 1974); CPM-7407X1010

Popov, Yu. V.—Electrooptical effect in lead magnesium biobate crystals of pyrochlore structure —I. I. Adrianova, A. A. Berezhnoi, E. V. Nefedova, V. A. Pismennyi, Yu. V. Popov, and K. P. Skornyakova. **36**(5), 547–8 (May 1974); CPM-7409X1475

Popova, T. Ya.—Nonlinear absorption of a weak field in an intense field in resonance fluorescence —T. Ya. Popova. **36**(3), 350 (Mar. 1974); CPM-7407X1036

—Laser doppler velocimeter with compensation of additive components of interference and noise —A. I. Vatrushkin, Yu. N. Dubnishchev, and T. Ya. Popova. **36**(6), 690–1 (Jun. 1974); CPM-7410X1052

Potapov, E. V.—Ellipsometry of ultrathin transparent films —G. A. Egorova, N. S. Ivanova, E. V. Potapov, and A. V. Rakov. **36**(4), 449–51 (Apr. 1974); CPM-7408X0231

Potapov, V. K.—Investigation of the spectral dependence of the yield of slow photoelectrons from platinum and silver surfaces in the vacuum ultraviolet —G. V. Karachevtsev, V. K. Potapov, and V. V. Sorokin. **36**(5), 563–5 (May 1974); CPM-7409X1491

Pozdnyakova, L. A.—Structure of the vibrational band of hydrogen in various liquid solutions —N. D. Orlova and L. A. Pozdnyakova. **36**(6), 712–3 (Jun. 1974); CPM-7410X1074

—Spectrum of Raman scattering of hydrogen in some liquid solutions —N. D. Orlova, L. A. Pozdnyakova, and E. B. Khodos. **37**(3), 340–1 (Sep. 1974)

Preobrazhenskii, I. G.—Quasi–resonant transfer of excitation energy in the CO_2–Hf system —P. F. Gruzdev and I. G. Preobrazhenskii. **37**(3), 345–6 (Sep. 1974)

Presnyakov, Yu. P.—Geometric parameters of objects studied by using shift interferometry —N. G. Vlasov, Yu. P. Presnyakov, and E. G. Semenov. **37**(2), 210–2 (Aug. 1974)

Prilezhaeva, N. A.—Study of collisions of the second kind between $Hg(6^3P_{0,1})$ atoms and slow electrons in an Hg+CO mixture —S. M. Kazakov, A. I. Korotkov, and N. A. Prilezhaeva. **36**(6), 620–4 (Jun. 1974); CPM-7410X0982

Privalov, V. E.—Experimental study of reactive oscillations in the discharge gap of a He–Ne laser —V. E. Privalov, S. A. Frikrikhov, and G. A. Shishkin. **36**(5), 576–8 (May 1974); CPM-7409X1504

—Experimental investigation of a He–Ne laser with a discharge gap of rectangular cross section —V. E. Privalov and V. A. Khodovoi. **37**(4), 455–7 (Oct. 1974)

—Transverse distribution of amplification in discharge gaps of concentric and sector cross sections —V. E. Privalov and S. F. Yudin. **37**(5), 566–7 (Nov. 1974)

Prokopev, E. P.—Energy spectrum and annihilation characteristics of a positronium atom in ionic crystals —E. P. Prokopev. **36**(2), 209–12 (Feb. 1974); CPM-7406X0569

Protasevich, V. I.—The possibility of using relief–phase copies of Vander Lugt filters —V. I. Protasevich and V. S. Strukov. **36**(5), 601 (May 1974); CPM-7409X1529

Protsenko, E. D.—Field in a cavity with two quasi–quarter–wave plates —M. A. Gubin, G. I. Kozin, and E. D. Protsenko. **36**(3), 328–30 (Mar. 1974); CPM-7407X1014

Pruzhanovskii, V. A.—Propagation of light in a narrow gap between plane metal mirrors —V. A. Pruzhanovskii. **37**(4), 452–3 (Oct. 1974)

Przhevalskii, I. N.—Molecular constants of hydrogen peroxide. 4: Structural parameters —G. A. Khachkuruzov and I. N. Przhevalskii. **36**(2), 172–4 (Feb. 1974); CPM-7406X0532

—Molecular constants of hydrogen peroxide. 5: Force constants —I. N. Przhevalskii and G. A. Khachkuruzov. **36**(2), 175–7 (Feb. 1974); CPM-7406X0535

Pugachev, O. F.—Luminescence of solid aromatic substances in active nitrogen —V. D. Shatrov, O. F. Pugachev, and E. B. Gordon. **36**(4), 413–5 (Apr. 1974); CPM-7408X0195

Pukhnarevich, V. B.—Calculation and interpretation of the infrared spectra of methyl ethynyl ketone —K. M. Danchinov, D. N. Shigorin, and V. B. Pukhnarevich. **37**(6), 667–8 (Dec. 1974)

Puko, R. A.—Luminescence kinetics of the dissociated forms of europium benzoylacetonate. Part 2 —R. A. Puko, V. S. Khomenko, V. V. Kuznetsova, N. N. Mitkina, and T. I. Razvina. **36**(3), 294–7 (Mar. 1974); CPM-7407X0980

Pulatova, L.—Fine structure of the Rayleigh scattering line in certain alcohols —D. A. Rasulmikhamedova, L. Pulatova, L. E. Kvasova, A. G. Rasulmikhamedov, M. G. Khaliulin, and P. K. Khabibullaev. **37**(1), 116 (Jul. 1974)

Putyrskii, V. P.—Nuclear magnetic resonance of optically oriented atoms induced by a nonuniform static transverse magnetic field —L. N. Novikov, S. L. Votyakov, and V. P. Putyrskii. **36**(5), 495–6 (May 1974); CPM-7409X1423

—Line shape for a nuclear magnetic resonance of an optically oriented atomic system in a nonuniform radiofrequency field —S. L. Votyakov, S. P. Dovgopol, L. N. Novikov, and V. P. Putyrskii. **36**(6), 611–4 (Jun. 1974); CPM-7410X0973

—Magnetic relaxation of optically oriented nuclei of atoms interacting with a wall —V. P. Putyrskii and T. G. Izyumova. **37**(3), 227–30 (Sep. 1974)

Pyatikop, A. P.—Efficient polarization of laser radiation by a prism with small birefringence —Yu. A. Nestrizhenko, O. G. Dalchenko, A. P. Pyatikop, and V. V. Shevchenko. **36**(3), 321–3 (Mar. 1974); CPM-7407X1007

Pyndyk, A. M.—Vibration spectra of tetramethyl compounds of elements of group IV —A. M. Pyndyk, M. R. Aliev, and V. T. Aleksanyan. **36**(4), 393–6 (Apr. 1974); CPM-7408X0175

R

Radsig, A. A.—Parameters of loosely bound molecular ions —L. Ya. Efremenkova, A. A. Radsig, and B. M. Smirnov. **36**(1), 35–8 (Jan. 1974); CPM-7406X0395

Radyukhin, V. S.—Thermoluminescence of $Y_3Al_5O_{12}$–RE crystals —S. Kh. Batygov, Y. K. Voronko, B. I. Denker, and V. S. Radyukhin. **36**(1), 70–1 (Jan. 1974); CPM-7406X0430

Rakhovskii, V. I.—Measurement of the total cross section for electron impact excitation of a 5^3P_0 metastable level of cadmium —M. A. Mazing, V. I. Rakhovskii, G. I. Stotskii, and V. M. Shustryakov. **37**(4), 464–5 (Oct. 1974)

Rakov, A. V.—Ellipsometry of ultrathin transparent films —G. A. Egorova, N. S. Ivanova, E. V. Potapov, and A. V. Rakov. **36**(4), 449–51 (Apr. 1974); CPM-7408X0231

Ralchenko, V. I.—Spectral luminescence study of solutions of active Nd^{3+} centers in $POCl_3$+$SnCl_4$ —T. K. Andreeva, M. E. Zhabotinskii, L. V. Levkin, and V. I. Ralchenko. **37**(5), 529–32 (Nov. 1974)

Ramm, A. G.—Scattering matrix for light scattered by a small particle of arbitrary shape —A. G. Ramm. **37**(1), 68–70 (Jul. 1974)

Rapoport, L. P.—Two–photon ionization of H^+_2 —V. A. Davydkin and L. P. Rapoport. **36**(2), 141–4 (Feb. 1974); CPM-7406X0501

Rasulmikhamedov, A. G.—Fine structure of the Rayleigh scattering line in certain alcohols —D. A. Rasulmikhamedova, L. Pulatova, L. E. Kvasova, A. G. Rasulmikhamedov, M. G. Khaliulin, and P. K. Khabibullaev. **37**(1), 116 (Jul. 1974)

Rasulmikhamedova, D. A.—Fine structure of the Rayleigh scattering line in certain alcohols —D. A. Rasulmikhamedova, L. Pulatova, L. E. Kvasova, A. G. Rasulmikhamedov, M. G. Khaliulin, and P. K. Khabibullaev. **37**(1), 116 (Jul. 1974)

Rautian, S. G.—Broadening and shift of the 0.63–μm neon line under the action of the discharge current —Im Tkhek–de, V. P. Kochanov, S. G. Rautian, E. G. Saprykin, and A. M. Shalagin. **36**(2), 152–4 (Feb. 1974); CPM-7406X0512

Razbegaeva, L. A.—Solution of the inverse vibrational problem for the phosgene molecule using vibrational–rotational constants and inertia defects —L. M. Sverdlov and L. A. Razbegaeva. **36**(6), 718–9 (Jun. 1974); CPM-7410X1080

Razumova, T. K.—Observation of absorption in liquids by polarized light —A. M. Bonch–Bruevich, T. K. Razumova, and I. O. Starobogatov. **36**(4), 403–4 (Apr. 1974); CPM-7408X0185

—Stepwise excitation of anti–Stokes fluorescence and photochemical processes in solutions of polymethine dyes —E. N. Kaliteevskaya and T. K. Razumova. **36**(6), 654–7 (Jun. 1974); CPM-7410X1016

Razvina, T. I.—Luminescence kinetics of the dissociated forms of europium benzoylacetonate. Part 2 —R. A. Puko, V. S. Khomenko, V. V. Kuznetsova, N. N. Mitkina, and T. I. Razvina. **36**(3), 294–7 (Mar. 1974); CPM-7407X0980

Rebane, T. K.—Modified adiabatic approximation for isoelectronic sequence of helium with the separation of variables in elliptical coordinates —E. P. Smirnov and T. K. Rebane. **37**(4), 451–2 (Oct. 1974)

—Mathematical foundations of atomic theory. By A. P. Jucys and A. J. Savukynas. Mintis, Vilnius, 1973, 480 pp., bibl. 243–T. K. Rebane. **37**(6), 685–6 (Dec. 1974)

Rebane, V. N.—Application of perturbation theory to the calculation of collisional depolarization of spectral lines with hyperfine structure —V. N. Rebane. **36**(5), 598–9 (May 1974); CPM-7409X1526

—Effect of the relationship between the intensities of hyperfine components of exciting light on the collisional depolarization of fluorescence —V. N. Rebane. **37**(2), 123–5 (Aug. 1974)

—Calculation of probabilities for collision–induced transitions between levels of hyperfine structure of atoms —V. N. Rebane and A. G. Petrashen. **37**(5), 472–5 (Nov. 1974)

Redko, T. P.—Temperature dependence of diffusion coefficients of excited $6^3P_{0,2}$ mercury atoms in mercury vapor —N. P. Penkin and T. P. Redko. **36**(2), 132–5 (Feb. 1974); CPM-7406X0492
—Cross sections for electron–impact excitation and mixing of the $6^3P_{0,1,2}$ levels of a mercury atom —N. P. Penkin and T. P. Redko. **36**(3), 258–61 (Mar. 1974); CPM-7407X0944
—Measurement of the rate of decay of resonance levels —G. A. Vesnicheva and T. P. Redko. **37**(1), 16–9 (Jul. 1974)
—Diffusion coefficient for metastable atoms of mercury in argon —N. P. Penkin, T. P. Redko, and N. A. Kryukov. **37**(4), 461–2 (Oct. 1974)
Remizov, N. V.—Possibility of determining the recombination and diffusion coefficients by the low impurity method —M. N. Polyanskii, N. V. Remizov, V. N. Skrebov, and A. M. Shukhtin. **36**(1), 32–4 (Jan. 1974); CPM-7406X0392
Reutov, A. T.—Frequency multiplication of coherent radiation in an optical microwaveguide with a nonlinear layer of lithium niobate —A. T. Reutov and P. P. Tarashchenko. **37**(4), 447–8 (Oct. 1974)
Reznikova, I. I.—Nature of the shift in the absorption and fluorescence spectra of some rhodamines on variation of their concentration in solution and of the acidity of the solvent —M. I. Snegov, I. I. Reznikova, and A. S. Cherkasov. **36**(1), 55–7 (Jan. 1974); CPM-7406X0415
Rikenglaz, M. M.—Luminescence kinetics of solid solutions with energy transfer. I. Energy transfer by dipole–dipole interaction — M. M. Rikenglaz and I. M. Rozman. **36**(1), 58–60 (Jan. 1974); CPM-7406X0418
—Luminescence kinetics of solid solutions when energy transfer occurs 2: Transfer by exchange interaction —M. M. Rikenglaz and I. M. Rozman. **36**(1), 61–4 (Jan. 1974); CPM-7406X0421
Rityn, E. N.—Study of vibrational relaxation of carbon dioxide in He, Ar, and Xe mixtures using the spectrophone method —E. N. Rityn. **36**(2), 248–9 (Feb. 1974); CPM-7406X0608
Rodionov, S. A.—Estimate of the influence of loval distortions of a wavefront on optical image quality —V. A. Zverev, S. A. Rodionov, and M. N. Sokolskii. **36**(4), 461–3 (Apr. 1974); CPM-7408X0243
—Optimal balancing of spherical aberration and choosing the plane of best placing in the systems with central screening —V. A. Zverev, S. A. Rodionov, M. N. Sokolsii, and N. I. Khlusova. **37**(6), 660–3 (Dec. 1974)
Rodnyi, P. A.—Luminescence and color centers in LiF single crystals under x–ray excitation —N. N. Ershov, G. M. Zakharov, T. I. Nikitinskaya, and P. A. Rodnyi. **36**(1), 122–3 (Jan. 1974); CPM-7406X0482
Rogova, I. V.—Influence of alignment of excited atoms on the light absorption coefficient in a gaseous medium —I. V. Rogova. **37**(1), 4–6 (Jul. 1974)
Roitenburg, D. I.—Emittance and radiative cooling of xenon heated by a shock wave —G. I. Koslov and D. I. Roitenburg. **36**(5), 497–500 (May 1974); CPM-7409X1425
Romanov, I. T.—Calculation of scattering cross section of spherical particles with m = 1.86 (0.02) to m = 2.00 —I. T. Romanov, V. E. Kuzema, and G. A. Kitaev. **36**(4), 465 (Apr. 1974); CPM-7408X0247
Rostomyan, B. O.—Radiation of electrons moving toward a silver surface at grazing angles. Radiation on surface irregularities —F. R. Arutyunyan, A. Kh. Mkhitaryan, R. A. Oganesyan, and B. O. Rostomyan. **36**(6), 672–4 (Jun. 1974); CPM-7410X1034
Rovinskii, R. E.—Determination of the total radiation of inert–gas plasmas —A. A. Bakeev, R. E. Rovinskii, and A. P. Sobolev. **37**(6), 668–9 (Dec. 1974)
Rozanov, N. N.—Spectrum of a laser with an additional mirror —N. N. Rozanov. **36**(1), 103–5 (Jan. 1974); CPM-7406X0463
Rozhdestvenskaya, N. B.—Depolarization part of scattered light in liquids with anisotropic molecules —L. A. Zubkov and N. B. Rozhdestvenskaya. **37**(3), 298–300 (Sep. 1974)
Rozman, G. A.—Participation of dipolons in the two-stage process of photochemical coloration of alkali halide crystal —G. A. Rozman. **36**(5), 594–5 (May 1974); CPM-7409X1522
Rozman, I. M.—Luminescence kinetics of solid solutions with energy transfer. I. Energy transfer by dipole–dipole interaction —M. M. Rikenglaz and I. M. Rozman. **36**(1), 58–60 (Jan. 1974); CPM-7406X0418
—Luminescence kinetics of solid solutions when energy transfer occurs 2: Transfer by exchange interaction —M. M. Rikenglaz and I. M. Rozman. **36**(1), 61–4 (Jan. 1974); CPM-7406X0421
—Transfer of electronic excitation energy in a liquid solution. 4: Transfer due to exchange interaction —L. V. Mikava and I. M. Rozman. **36**(2), 200–2 (Feb. 1974); CPM-7406X0560
—Luminescence kinetics of rigid solutions with energy transfer. 4: The law of luminescence decay of the acceptor for the transfer due to dipole–dipole interaction —M. S. Mikhelashvili, I. M. Rozman, and T. S. Tsulaya. **36**(2), 203–4 (Feb. 1974); CPM-7406X0563
Rudchik, A. T.—Exiton states of some pure and mixed molecular crystals. 3: Electronic spectra of crystalline solutions of p–dichorobenzene and p–chlorobromobenzene, and of p–dibromobenzene and p–chlorobromobenzene —G. V. Klimusheva, A. T. Rudchik, and R. V. Yaremko. **36**(4), 405–7 (Apr. 1974); CPM-7408X0187
Rudnitskii, Yu. P.—Nonradiative energy transfer in phosphate glasses activated with rare earth ions —S. L. Kraevskii, Yu. P. Rudnitskii, and E. I. Sverchkov. **36**(6), 662–5 (Jun. 1974); CPM-7410X1024
Rumyantsev, B. M.—Modulation of the quantum yield of the fluorescence of excited complexes by a weak magnetic field —E. L. Frankevich, B. M. Rumyantsev, and V. I. Lesin. **37**(2), 215–6 (Aug. 1974)
Ryabtsev, A. N.—Intrashell transitions in the spectra of multiply charged titanium ions (Ti XV–Ti XIX) —Yu. S. Kasyanov, E. Ya. Kononov, V. V. Korobkin, K. N. Koshelev, A. N. Ryabtsev, R. V. Serov, and E. V. Skokan. **36**(1), 4–6 (Jan. 1974); CPM-7406X0364
—Spectra of ions in the Co I isoelectronic sequence. Part 1: Ga V — V. P. Aksenov and A. N. Ryabtsev. **37**(5), 492–4 (Nov. 1974)
Rybakova, T. V.—Vibration spectrum and optical constants of $ZnGep_2$ single crystals—Yu. F. Markov, V. S. Grigoreva, B. S. Zadokhin, and T. V. Rybakova. **36**(1), 93–5 (Jan. 1974); CPM-7406X0453
Ryltsev, E. V.—Spectral evidence and mechanisms of intermolecular interactions involving bipolar molecules —I. E. Boldeskul, G. A. Kalyagin, Yu. P. Makovetskii, and E. V. Ryltsev. **37**(4), 459–60 (Oct. 1974)
Rysakov, V. M.—Resolution and luminosity of a spectrometer with a Fabry–Perot interferometer for analyzing Mandelshtam–Brillouin spectra —V. M. Rysakov. **36**(6), 699–701 (Jun. 1974); CPM-7410X1061
Ryskin, A. I.—Fourth all–union conference on spectroscopy of activated crystals —A. I. Ryskin and P. P. Feofilov. **37**(6), 690–1 (Dec. 1974)
Ryskin, A. Ya.—Temperature dependence of the non–equilibrium luminescence of pairs of second neighbors of chromium ions in ruby —A. A. Vydrik, L. P. Nikitin, A. Ya. Ryskin, and Z. M. Khashkhozhev. **37**(3), 347–8 (Sep. 1974)
Ryzhov, V. A.—Induction mechanism of the translational spectrum of the H_2+Ar, H_2+Kr, and H_2+Xe systems —V. A. Ryzhov and M. V. Tonkov. **37**(5), 476–8 (Nov. 1974)
—Translational absorption in the spectra of noble gases —V. A. Ryzhov and M. V. Tonkov. **37**(6), 606–9 (Dec. 1974)
Rzhevskii, V. N.—Measurment of the radial temperature distribution of an argon discharge at medium pressures by pulsed holographic interferometry —V. N. Rzhevskii. **37**(6), 671–2 (Dec. 1974)

S

Saari, P. M.—Hot vibronic transitions and lifetimes of the vibrational states of the perylene molecule —T. B. Tamm and P. M. Saari. **36**(2), 189–92 (Feb. 1974); CPM-7406X0549
Safronova, U. I.—Comparison of nonrelativistic and relativistic perturbation theory using as an example the calculation of the energy of two–electron atoms —A. D. Gurchumeliya and U. I. Safronova. **36**(4), 473–4 (Apr. 1974); CPM-7408X0255
Saidov, G. V.—Liquid optical component that uses attenuated total internal reflection with a variable number of reflections —G. V. Saidov and M. E. Yudovich. **36**(6), 707–8 (Jun. 1974); CPM-7410X1069
Sakhnovskii, M. Yu.—Scattering of radiation by metal black —M. Yu. Sakhnovskii and M. G. Kunetskii. **37**(6), 651–3 (Dec. 1974)
Salanskii, N. M.—Electromagnetic wave propagation in a magnetically ordered medium with a regular magnetic inhomogeneity —N. M. Salanskii and Yu. M. Fedorov. **37**(6), 633–4 (Dec. 1974)
Samarin, V. I.—Out–of–synchronism harmonic excitation in nonlinear media by finite–aperture beams —V. I. Samarin, V. I. Stroganov, and S. V. Sorokin. **36**(4), 440–2 (Apr. 1974); CPM-7408X0222
—Interference effects during excitation of optical harmonics —V. I. Stroganov and V. I. Samarin. **37**(2), 172–4 (Aug. 1974)

Samartsev, V. V.—On the question of investigation of the hyperfine and superhyperfine interaction by the light echo method —Z. M. Kaveeva and V. V. Samartsev. **37**(4), 465 (Oct. 1974)
—Stimulated light echo and inelastic collisions of particles in a low-temperature plasma —L. A. Nefedev and V. V. Samartsev. **37** (6), 673–4 (Dec. 1974)
Samodurova, I. D.—Experimental study of the angular intensity distribution of light scattered by liquid crystals in a dynamic-scattering regime —I. D. Samodurova, A. S. Sonin, and A. B. Uspenskii. **36**(6), 680–1 (Jun. 1974); CPM-7410X1042
Samoilova, A. N.—The λ=4600-Å band in a spectrum produced by pulsed photolysis of chromium carbonyl —Yu. M. Efremov, A. N. Samoilova, and L. V. Gurvich. **36**(4), 381–2 (Apr. 1974); CPM-7408X0163
Samokhvalov, V. V.—Observation of a dissociative recombination of a molecular helium ion in the early afterflow of a discharge —V. S. Egorov, A. A. Pastor, V. V. Samokhvalov, and A. A. Solovev. **37** (5), 563–5 (Nov. 1974)
Saprykin, E. G.—Broadening and shift of the 0.63-μm neon line under the action of the discharge current —Im Tkhek-de, V. P. Kochanov, S. G. Rautian, E. G. Saprykin, and A. M. Shalagin. **36** (2), 152–4 (Feb. 1974); CPM-7406X0512
Sapunov, V. V.—Triplet–triplet energy transfer and radiationless processes in nonluminescing metalloporphyrin molecules —M. P. Tsvirko, K. N. Solovev, and V. V. Sapunov. **36**(2), 193–5 (Feb. 1974); CPM-7406X0553
Sarzhevskii, A. M.—Depolarization of fluorescence during decay, using multichannel time analysis —L. V. Volodko, M. I. Demchuk, I. N. Kozlov, A. M. Sarzhevskii, and A. F. Chernyavski. **37**(4), 392–4 (Oct. 1974)
Savrasova, M. I.—Image multiplication using uniaxial holograms —G. N. Buinov, I. E. Kit, K. S. Mustafin, and M. I. Savrasova. **37** (2), 196–7 (Aug. 1974)
Savushkin, A. F.—Theory of diffraction phenomena in a ring laser —A. Ya. Birman and A. F. Savushkin. **37**(2), 181–3 (Aug. 1974)
Sazonova, S. A.—Temperature shift and broadening of Nd^{3+} ion levels in $CaWO_4$, $CaMoO_4$, and $PbMoO_4$ crystals —V. I. Bonchkovskii, B. I. Minkov, S. A. Sazonova, and B. S. Skorobogatov. **36**(5), 608–9 (May 1974); CPM-7409X1536
Sechkarev, A. V.—The manifestation of structural defects in the infrared spectrum of crystalline naphthalene —G. A. Ginet and A. V. Sechkarev. **36**(3), 304–6 (Mar. 1974); CPM-7407X0990
Sedelnikova, V. A.—Dispersion characteristic of a He–Ne laser at 0.6328 micron —G. G. Akchurin, M. L. Kats, L. A. Melnikov, V. A. Sedelnikova, and V. V. Tuchin. **37**(1), 87–9 (Jul. 1974)
Seleznev, V. A.—Method of compensating aberrations in holographic interferometry of increased sensitivity —V. L. Afanaseva, L. T. Mustafina, and V. A. Seleznev. **37**(4), 448–9 (Oct. 1974)
Semenenko, A. I.—Ellipsometry of inhomogeneous surface films —L. L. Vasileva, K. K. Svitashev, A. I. Semenenko, L. V. Semenenko, and V. K. Sokolov. **37**(3), 325–8 (Sep. 1974)
Semenenko, L. V.—Ellipsometry of inhomogeneous surface films —L. L. Vasileva, K. K. Svitashev, A. I. Semenenko, L. V. Semenenko, and V. K. Sokolov. **37**(3), 325–8 (Sep. 1974)
Semenov, E. G.—Geometric parameters of objects studied by using shift interferometry —N. G. Vlasov, Yu. P. Presnyakov, and E. G. Semenov. **37**(2), 210–2 (Aug. 1974)
Semenov, G. B.—Investigation of amplitude and phase holograms of diffuse objects —V. I. Lokshin, G. B. Semenov, and A. F. Kavtrev. **36**(5), 590–3 (May 1974); CPM-7409X1518
Semenov, R. I.—Calculation of transition probabilities between the $3p^5ns$–$3p^54p$ configurations of Ar I from gyromagnetic rations —G. P. Anisimova and R. I. Semenov. **36**(2), 130–1 (Feb. 1974); CPM-7406X0490
—Interferometric method for measuring the intensity of time-varying strong magnetic fields —A. V. Molchanov and R. I. Semenov. **37** (3), 348–9 (Sep. 1974)
Semin, G. S.—Approximation formulas in the theory of gyrotropy. Part 1 —V. I. Burkov, V. V. Ivanov, V. A. Kizel, and G. S. Semin. **37**(4), 420–2 (Oct. 1974)
Sennitskaya, L. V.—Calculation of the frequencies and forms of the normal vibrations of the gauche and trans rotational isomers of 2-chloro- and 2-bromoethylamine —L. V. Sennitskaya, Yu. D. Timoshenkova, Yu. A. Pentin, and B. S. Kikot. **37**(2), 139–41 (Aug. 1974)
Sepman, V. Yu.—Measurement of relative oscillator strengths for transitions of subordinate series in rubidium and cesium —A. N. Klyucharev, V. Yu. Sepman, and B. V. Dobrolezh. **37**(5), 470–1 (Nov. 1974)
Serdyukov, A. N.—Phenomenological theory of absorbing optically active media —B. V. Bokut, A. N. Serdyukov, and V. V. Shepelevich. **37**(1), 65–7 (Jul. 1974)
—Form of constitutive equations in optically active crystals —B. V. Bokut, A. N. Serdyukov, and F. I. Fedorov. **37**(2), 166–8 (Aug. 1974)
Serebryakova, A. V.—Infrared spectra of spinel solid solutions and their description by the cluster components method —V. M. Talanov, B. N. Varskoi, Yu. P. Vorobev, A. A. Iovlev, A. N. Men, and A. V. Serebryakova. **37**(2), 212–3 (Aug. 1974)
Serov, A. P.—Effect of deuteration of the solvent on the rate constants for fluorescence quenching in solutions of organic luminors —A. V. Aristov, E. N. Viktorova, and A. P. Serov. **37**(5), 576–7 (Nov. 1974)
Serov, R. V.—Intrashell transitions in the spectra of multiply charged titanium ions (Ti XV–Ti XIX) —Yu. S. Kasyanov, E. Ya. Kononov, V. V. Korobkin, K. N. Koshelev, A. N. Ryabtsev, R. V. Serov, and E. V. Skokan. **36**(1), 4–6 (Jan. 1974); CPM-7406X0364
Shabanov, V. F.—Symposium on laser spectroscopy —G. Kh. Tartakovskii and V. F. Shabanov. **37**(6), 689 (Dec. 1974)
Shabanova, L. N.—Broadening by inert gases of europium lines due to $a^8_{7/2}$ –$y^8P_{9/2,7/2,5/2}$ transitions —N. P. Penkin and L. N. Shabanova. **36**(1), 10–2 (Jan. 1974); CPM-7406X0370
—Potentials for the interaction between certain metal atoms and inert gas atoms —L. N. Shabanova. **36**(1), 13–5 (Jan. 1974); CPM-7406X0373
Shaganov, I. I.—Effect of optical polarization on the intensities and frequencies of the spectrum of a calcium fluoroapatite crystal in the region of the internal vibrations of the PO_4^{3-} ion —I. I. Shaganov and V. S. Libov. **37**(1), 55–8 (Jul. 1974)
Shalagin, A. M.—Broadening and shift of the 0.63-μm neon line under the action of the discharge current —Im Tkhek-de, V. P. Kochanov, S. G. Rautian, E. G. Saprykin, and A. M. Shalagin. **36** (2), 152–4 (Feb. 1974); CPM-7406X0512
Shaldin, A. V.—Measurement of birefringence using the interference of polarized beams in crystals at a point Δn=0 in the transparent region —A. V. Shaldin and D. A. Belogurov. **36**(3), 346 (Mar. 1974); CPM-7407X1032
Shaldin, Yu. V.—Method for measuring induced birefringence on anisotropic crystals in quasimonochromatic light —D. A. Belogurov and Yu. V. Shaldin. **36**(5), 545–6 (May 1974); CPM-7409X1473
Shamovskii, L. M.—Two types of luminescence centers in CsI–Tl —V. B. Gutan, L. M. Shamovskii, A. A. Dunina, and B. S. Gorobets. **37**(4), 407–10 (Oct. 1974)
Shaparev, Yu. V.—Rotational spectra of dipolar-unstable symmetrical polyatomic systems —I. B. Bersuker, I. Ya. Ogurtsov, and Yu. V. Shaparev. **36**(2), 181–4 (Feb. 1974); CPM-7406X0541
Shatrov, V. D.—Luminescence of solid aromatic substances in active nitrogen —V. D. Shatrov, O. F. Pugachev, and E. B. Gordon. **36** (4), 413–5 (Apr. 1974); CPM-7408X0195
Shchapin, S. M.—Submillimeter spectrum and intermolecular parameters —A. V. Burenin, A. N. Valbov, L. I. Gershtein, E. N. Karyakin, A. F. Krupnov, A. V. Maslovskii, and S. M. Shchapin. **37**(6), 676–8 (Dec. 1974)
Shcheglova, N. A.—Influence of a heavy atom on the spectral-luminescent properties of molecules characterized by electronic excited states of different nature —D. N. Shigorin and N. A. Shcheglova. **36**(4), 464 (Apr. 1974); CPM-7408X0246
Shebanin, E. P.—Intercombination conversion in rhodamine 6G solutions —E. P. Shebanin, V. S. Dudkin, and B. Ya. Kogan. **37** (5), 570–1 (Nov. 1974)
Shelepo, A. P.—Mechanism of population inversion in atomic hydrogen —V. S. Aleinikov and A. P. Shelepo. **36**(4), 474–5 (Apr. 1974); CPM-7408X0256
Shepelevich, V. V.—Phenomenological theory of absorbing optically active media —B. V. Bokut, A. N. Serdyukov, and V. V. Shepelevich. **37**(1), 65–7 (Jul. 1974)
Sheronov, A. A.—Measurement of optical constants of materials in the 4–30 cm^{-1} region by a Michelson interferometer —F. F. Igoshin, A. P. Kiryanov, V. V. Mozhaev, M. A. Tulaikova, and A. A. Sheronov. **36**(6), 669–71 (Jun. 1974); CPM-7410X1031

Shestakov, A. F.—Polarizability of a relativistic hydrogen atom —A. F. Shestakov and S. V. Khristenko. **36**(4), 369–70 (Apr. 1974); CPM-7408X0151

Shevandin, V. S.—A Nd: glass laser pumped by a lamp–excited dye laser —A. V. Aristov and V. S. Shevandin. **37**(3), 336–7 (Sep. 1974)

Shevchenko, V. V.—Efficient polarization of laser radiation by a prism with small birefringence —Yu. A. Nestrizhenko, O. G. Dalchenko, A. P. Pyatikop, and V. V. Shevchenko. **36**(3), 321–3 (Mar. 1974); CPM-7407X1007

Shevel'ko, V. P.—Oscillator strengths and photoionization cross sections of alkali-like ions– V. P. Shevel'ko. **36**(1), 7-9 (Jan. 1974); CPM-7406X0367

—Effect of polarization of the atomic residue on excitation cross sections of optical transitions of alkali atoms —I. L. Beigman and V. P. Shevel'ko. **37**(4), 353–5 (Oct. 1974)

Shevera, V. S.—Thermal effects on parametric light scattering in $LiNbO_3$ —Yu. A. Gorokhov, D. P. Krindach, V. S. Maiorov, and V. S. Shevera. **36**(5), 587–9 (May 1974); CPM-7409X1515

Shigorin, D. N.—Influence of a heavy atom on the spectral–luminescent properties of molecules characterized by electronic excited states of different nature —D. N. Shigorin and N. A. Shcheglova. **36**(4), 464 (Apr. 1974); CPM-7408X0246

—Calculation and interpretation of the infrared spectra of methyl ethynyl ketone —K. M. Danchinov, D. N. Shigorin, and V. B. Pukhnarevich. **37**(6), 667–8 (Dec. 1974)

Shilov, V. B.—Determination of the probabilities of relaxation processes in complex organic molecules from the relaxation shift of laser spectra—B. S. Neporent, V. B. Shilov, and G. V. Lukomskii. **37**(6), 682–3 (Dec. 1974)

Shimanskaya, E. T.—Behavior of the refractive index of heptane in a wide temperature region along the saturation curve including the neighborhood of the critical point —L. M. Artyukhovskaya, E. T. Shimanskaya, and Yu. I. Shimanskii. **37**(5), 533–6 (Nov. 1974)

Shimanskii, Yu. I.—Behavior of the refractive index of heptane in a wide temperature region along the saturation curve including the neighborhood of the critical point —L. M. Artyukhovskaya, E. T. Shimanskaya, and Yu. I. Shimanskii. **37**(5), 533–6 (Nov. 1974)

Shirokov, V. I.—Efficiency of liquid luminescence filter in a ruby laser —M. B. Levin, A. S. Cherkasov, and V. I. Shirokov. **36**(5), 579–80 (May 1974)

Shirokshin, V. A.—Cooperative luminescence in glasses activated with Yb^{3+} —A. V. Dmitryuk, G. O. Karapetyan, V. I. Kosyakov, B. M. Makushkin, and V. A. Shirokshin. **37**(3), 335–6 (Sep. 1974)

Shishkin, G. A.—Experimental study of reactive oscillations in the discharge gap of a He–Ne laser —V. E. Privalov, S. A. Frikrikhov, and G. A. Shishkin. **36**(5), 576–8 (May 1974); CPM-7409X1504

Shkadarevich, A. P.—Using nonlinear effects in a gas laser to measure isotope shift —A. P. Voitovich and A. P. Shkadarevich. **36**(2), 223–5 (Feb. 1974); CPM-7406X0583

Shkaleto, V. I.—Substructure and anomalous optical properties of islet condensates of silver —B. T. Boiko, V. V. Efimovskii, and V. I. Shkaleto. **37**(1), 112 (Jul. 1974)

Shklyarevskii, I. N.—Ellipsometric method for measuring optical constants and thickness of thin absorbing films on metal substrates —I. N. Shklyarevskii, A. F. A. El Shazli, R. G. Yarovaya, and V. P. Kostyuk. **36**(1), 116–8 (Jan. 1974); CPM-7406X0476

—Optical properties of thin garanular films of tellurium —I. N. Shklyarevskii, A. I. Usoskin, V. P. Lebedev, and E. N. Alekseev. **36**(4), 457–60 (Apr. 1974); CPM-7408X0239

—Approximate equations for ultrathin two–layer coatings —A. I. Usoskin and I. N. Shklyarevskii. **36**(5), 603–4 (May 1974); CPM-7409X1531

—Nature of light absorption by bismuth and tellurium island films — A. I. Usoskin and I. N. Shklyarevskii. **36**(6), 675–7 (Jun. 1974); CPM-7410X1037

Shlarbaum, B.—K–absorption spectrum of nitrogen in the N_2 molecule —A. S. Vinogradov, B. Shlarbaum, and T. M. Zimkina. **36**(4), 383–5 (Apr. 1974); CPM-7408X0165

Shlyapnikov, G. V.—Photodissociation and photorecombination emission of diatomic molecules —A. V. Eletskii, B. M. Smirnov, and G. V. Shlyapnikov. **36**(6), 630–4 (Jun. 1974); CPM-7410X0992

Sholin, G. V.—Nature of the red shift of hydrogen lines in a dense plasma —A. V. Demura and G. V. Sholin. **36**(6), 711 (Jun. 1974); CPM-7410X1073

Shotov, A. P.—Interferometric measurements of the linewidths of the emission of a pulsed PbSe injection laser —V. A. Ageikin, I. I. Zasavitskii, V. G. Koloshnikov, A. I. Likhter, E. G. Pel, and A. P. Shotov. **36**(4), 471–2 (Apr. 1974); CPM-7408X0253

Shpak, M. T.—Phosphorescence of naphthalene crystals with surface impurities —V. K. Kravets, V. I. Melnik, and M. T. Shpak. **37**(5), 527–8 (Nov. 1974)

Shpenik, O. B.—Effective cross sections and peculiarities of electron excitation of the cadmium atom —V. V. Sovter, I. P. Zapesochnyi, and O. B. Shpenik. **36**(5), 482–6 (May 1974); CPM-7409X1410

Shreider, E. Ya.—Variation in the contour of a resonance line as a function of plasma composition —V. I. Gladushchak, V. V. Skidan, and E. Ya. Shreider. **37**(6), 598–600 (Dec. 1974)

Shtain, A. I.—Spectroscopic manifestation of orientational disordering in the p–bromochlorobenzene molecular crystal in the region of the lowest singlet–singlet transition —A. Ya. Korets, V. P. Fedorov, and A. I. Shtain. **37**(5), 562–3 (Nov. 1974)

Shtanko, A. E.—Copying holograms by stamping on a thermoplastic —I. N. Vagin and A. E. Shtanko. **36**(5), 597–8 (May 1974); CPM-7409X1525

Shtenberg, B. Ya.—Calculation of the vibrational spectra of cyanuric and trithiocyanuric acids —B. Ya. Shtenberg, Yu. I. Mushkin, and A. I. Finkelshtein. **36**(5), 525–7 (May 1974); CPM-7409X1453

Shukhtin, A. M.—Possibility of determining the recombination and diffusion coefficients by the low impurity method —M. N. Polyanskii, N. V. Remizov, V. N. Skrebov, and A. M. Shukhtin. **36**(1), 32–4 (Jan. 1974); CPM-7406X0392

—Some possible mechanisms for molecular influence on the properties of an atomic–molecular plasma —A. M. Shukhtin and G. A. Fedotov. **37**(2), 219–20 (Aug. 1974)

Shumyatskii, B. Ya.—Possibility of determining the parameters of an optically dense inhomogeneous low–temperature plasma using the integral emission intensities of self–reversed lines —I. A. Vasileva, B. Ya. Shumyatskii, and D. N. Yundev. **36**(2), 155–8 (Feb. 1974); CPM-7406X0515

Shustryakov, V. M.—Measurement of the total cross section for electron impact excitation of a 5^3P_0 metastable level of cadmium —M. A. Mazing, V. I. Rakhovskii, G. I. Stotskii, and V. M. Shustryakov. **37**(4), 464–5 (Oct. 1974)

Shvedova, N. D.—Calculation of nonlinear susceptibilities and nonlinear indices of refraction from spontaneous Raman scattering data —N. D. Shvedova and L. M. Sverdlov. **36**(4), 443–5 (Apr. 1974); CPM-7408X0225

Sidorenko, V. M.—Influence of the effective field of a light wave on the Raman spectra of condensed media. Part 3. Raman spectra at the liquid–vapor phase transition —V. M. Sidorenko, V. S. Libov, and N. G. Bakhshiev. **37**(4), 385–8 (Oct. 1974)

—Influence of the effective field of a light–wave on the Raman spectra of condensed media. 4: Fermi resonance in the spontaneous Raman spectra of carbon tetrachloride —V. M. Sidorenko, V. S. Libov, and N. G. Bakhshiev. **37**(6), 621–3 (Dec. 1974)

Sidorov, A. N.—Raman spectra of metal phthalocyanines and their negative ions —I. V. Aleksandrov, Ya. S. Bobovich, V. G. Maslov, and A. N. Sidorov. **37**(3), 265–9 (Sep. 1974)

Sidorov, N. K.—Variation of scattering power of molecules in binary mixtures for Raman scattering —N. K. Sidorov and L. S. Stalmakhova. **36**(1), 119–20 (Jan. 1974); CPM-7406X0479

—Concentration dependence of Raman linewidth in high–viscosity solutions —N. K. Sidorov, L. S. Stalmakhova, and G. L. Novikova. **37**(1), 48–9 (Jul. 1974)

Simonov, A. M.—Laser photolysis of porphyrin complexes with transitions metal ions —B. M. Dzhagarov, G. P. Gurinovich, and A. M. Simonov. **37**(2), 146–8 (Aug. 1974)

Sintsov, V. N.—Holographic synthesis of the aperture of a composite objective —Yu. E. Kuzilin and V. N. Sintsov. **36**(3), 352–3 (Mar. 1974); CPM-7407X1038

Sinyavskii, E. P.—Light absorption in intrinsic semiconductors in the presence of high–power laser radiation —E. P. Sinyavskii. **37**(3), 281–5 (Sep. 1974)

Skachkov, Yu. F.—Silver layers cleared by dielectric coatings —L. B. Panfilova and Yu. F. Skachkov. **37**(4), 440–1 (Oct. 1974)

Skidan, V. V.—Variation in the contour of a resonance line as a function of plasma composition —V. I. Gladushchak, V. V. Skidan, and E. Ya. Shreider. **37**(6), 598–600 (Dec. 1974)

Skokan, E. V.—Intrashell transitions in the spectra of multiply charged titanium ions (Ti XV–Ti XIX) —Yu. S. Kasyanov, E. Ya. Kononov, V. V. Korobkin, K. N. Koshelev, A. N. Ryabtsev, R. V. Serov, and E. V. Skokan. **36**(1), 4–6 (Jan. 1974); CPM-7406X0364

Skornyakova, K. P.—Electrooptical effect in lead magnesium biobate crystals of pyrochlore structure —I. I. Adrianova, A. A. Berezhnoi, E. V. Nefedova, V. A. Pismennyi, Yu. V. Popov, and K. P. Skornyakova. **36**(5), 547–8 (May 1974); CPM-7409X1475

Skorobogatov, B. S.—Temperature shift and broadening of Nd^{3+} ion levels in $CaWO_4$, $CaMoO_4$, and $PbMoO_4$ crystals —V. I. Bonchkovskii, B. I. Minkov, S. A. Sazonova, and B. S. Skorobogatov. **36**(5), 608–9 (May 1974); CPM-7409X1536

Skrebov, V. N.—Possibility of determining the recombination and diffusion coefficients by the low impurity method [5]—M. N. Polyanskii, N. V. Remizov, V. N. Skrebov, and A. M. Shukhtin. **36**(1), 32–4 (Jan. 1974); CPM-7406X0392

Skrotskii, G. V.—Equilibrium radiation in a finite-size cavity —A. A. Kolokolov and G. V. Skrotskii. **36**(2), 127–9 (Feb. 1974); CPM-7406X0487

Skvortsov, A. P.—Linear stark effect in the spectra of fluorapatite crystals activated with rare-earth ions —A. A. Kaplyanskii, V. N. Medvedev, and A. P. Skvortsov. **36**(2), 213–6 (Feb. 1974); CPM-7406X0573

Slavnova, T. D.—Concentration quenching of luminescence in alcohol solutions of rhodamine dyes —L. V. Levshin, E. Yu. Bekhli, T. D. Slavnova, and V. I. Yuzhakov. **36**(3), 290–3 (Mar. 1974); CPM-7407X0976

Slavyanov, S. Yu.—Aberrations in cavities with misadjusted mirrors —S. Yu. Slavyanov and V. G. Farafonov. **37**(1), 117–8 (Jul. 1974)

Slemzin, V. A.—Continuous spectrum of a pulsed discharge in helium —M. A. Mazing and V. A. Slemzin. **36**(1), 24–7 (Jan. 1974); CPM-7406X0384

Slobodskaya, P. V.—Vibrational relaxation of the nitrous oxide molecule —P. V. Slobodskaya. **36**(2), 250–1 (Feb. 1974); CPM-7406X0610

Slovetskii, D. I.—Determination of the rotational temperature from the intensity of electronic-vibrational bands in spectra with unresolved rotational structure —D. I. Slovetskii and A. S. Sokolov. **36**(3), 265–6 (Mar. 1974); CPM-7407X0951

—Deviation from ionization equilibrium in a two-temperature mixture of atomic gases —L. S. Polak and D. I. Slovetskii. **36**(6), 618–9 (Jun. 1974); CPM-7410X0980

Smirnov, B. M.—Parameters of loosely bound molecular ions —L. Ya. Efremenkova, A. A. Radsig, and B. M. Smirnov. **36**(1), 35–8 (Jan. 1974); CPM-7406X0395

—Photodissociation and photorecombination emission of diatomic molecules —A. V. Eletskii, B. M. Smirnov, and G. V. Shlyapnikov. **36**(6), 630–4 (Jun. 1974); CPM-7410X0992

Smirnov, E. P.—Modified adiabatic approximation for isoelectronic sequence of helium with the separation of variables in elliptical coordinates —E. P. Smirnov and T. K. Rebane. **37**(4), 451–2 (Oct. 1974)

Smirnov, L. V.—Polarization of electronic transitions in the absorption spectrum of benzalaniline —S. P. Maiburov, K. R. Popov, and L. V. Smirnov. **37**(2), 205–6 (Aug. 1974)

—Electronic and vibrational states of biphenyl-based molecules. 3: Determination of the polarization of the electronic and electronic-vibrational transitions of the carbazole and dibenzofuran molecules from the hypochromy in their crystal spectra —V. L. Grebneva, L. A. Nakhimovskaya, K. R. Popov, L. V. Smirnov, and G. V. Sukhina. **37**(5), 504–6 (Nov. 1974)

—Electronic and vibrational states of molecules based on biphenyl. 4: classification of the electronic transitions —K. R. Popov, L. V. Smirnov, V. L. Grebneva, and L. A. Nakhimovskaya. **37**(6), 613–6 (Dec. 1974)

Smirnov, V. A.—Inelastic collisions between highly excited atoms and inert-gas atoms —V. A. Smirnov. **37**(3), 231–2 (Sep. 1974)

—Optical ortho-para transitions in molecules —V. A. Smirnov. **37**(5), 498–500 (Nov. 1974)

Smirnov, V. L.—Excitation of thin-film waveguides by a holographic method —Yu. A. Bykovskii, A. V. Makovkin, and V. L. Smirnov. **37**(5), 579–80 (Nov. 1974)

Smirnov, V. S.—Polarization and statistical properties of laser emission from the J=1→J=0 transition —V. S. Smirnov and A. M. Tumaikin. **36**(3), 315–7 (Mar. 1974); CPM-7407X1001

Smirnov, V. V.—Relative values of oscillator strengths for spectral lines of Dy I —N. P. Penkin, V. A. Komarovskii, and V. V. Smirnov. **37**(3), 223–4 (Sep. 1974)

Smishko, E. V.—Luminescence of phenanthrene single crystal at low temperatures —A. S. Krochuk and E. V. Smishko. **37**(1), 59–60 (Jul. 1974)

Smolyanskii, A. L.—Calculation of the vibrational spectra of methyl propionate and ethyl propionate —V. I. Vakhlyueva, N. A. Kuznetsov, L. M. Sverdlov, and A. L. Smolyanskii. **36**(3), 277–9 (Mar. 1974); CPM-7407X0963

Snegov, M. I.—Nature of the shift in the absorption and fluorescence spectra of some rhodamines on variation of their concentration in solution and of the acidity of the solvent —M. I. Snegov, I. I. Reznikova, and A. S. Cherkasov. **36**(1), 55–7 (Jan. 1974); CPM-7406X0415

Sobolev, A. P.—Determination of the total radiation of inert-gas plasmas —A. A. Bakeev, R. E. Rovinskii, and A. P. Sobolev. **37**(6), 668–9 (Dec. 1974)

Sokolev, K. N.—Internal heavy-atom effect in porphyrin molecules. 2: Halogen derivatives of deuteroporphyrin IX—A. T. Gradyushko, D. T. Kozhich, K. N. Sokolev, and M. P. Tsvirko. **37**(5), 510–2 (Nov. 1974)

Sokolov, A. S.—Determination of the rotational temperature from the intensity of electronic-vibrational bands in spectra with unresolved rotational structure —D. I. Slovetskii and A. S. Sokolov. **36**(3), 265–6 (Mar. 1974); CPM-7407X0951

Sokolov, V. A.—Unsynchronized two-mode lasing in a gas ring laser —V. A. Sokolov and E. E. Fradkin. **36**(3), 348–9 (Mar. 1974); CPM-7407X1034

—Rotational structure of the 5472–5463Å band of calcium oxide —G. A. Volnyets, G. V. Kovalenok, and V. A. Sokolov. **36**(5), 609–700 (May 1974); CPM-7409X1537

Sokolov, V. K.—Ellipsometry of inhomogeneous surface films —L. L. Vasileva, K. K. Svitashev, A. I. Semenenko, L. V. Semenenko, and V. K. Sokolov. **37**(3), 325–8 (Sep. 1974)

Sokolova, I. V.—Spectral properties of alpha-methyl and alpha-silyketones. 1: Use of the method of complete disregard of differential overlapping in studying the spectral properties of the acetone molecule —L. V. Orlovskaya, I. V. Sokolova, and A. F. Terpugova. **36**(5), 512–5 (May 1974); CPM-7409X1440

Sokolova, T. N.—Gain in Fourier spectrometry —V. I. Tsoi and T. N. Sokolova. **36**(2), 240–1 (Feb. 1974); CPM-7406X0600

Sokolovskii, R. I.—Quantum phenomena in coherent-radiation transfer. Part 1 —F. A. Vorobev and R. I. Sokolovskii. **36**(6), 625–7 (Jun. 1974); CPM-7410X0987

—Profile of a luminescence pulse excited by a stationary pulse —B. B. Averbukh and R. I. Sokolovskii. **37**(5), 525–6 (Nov. 1974)

Sokolsii, M. N.—Optimal balancing of spherical aberration and choosing the plane of best placing in the systems with central screening —V. A. Zverev, S. A. Rodionov, M. N. Sokolsii, and N. I. Khlusova. **37**(6), 660–3 (Dec. 1974)

Sokolskii, M. N.—Estimate of the influence of loval distortions of a wavefront on optical image quality —V. A. Zverev, S. A. Rodionov, and M. N. Sokolskii. **36**(4), 461–3 (Apr. 1974); CPM-7408X0243

Solomko, A. A.—Propagation of laser radiation in randomly magnetized ferrite garnets —A. A. Solomko and V. I. Mykityuk. **36**(2), 236–9 (Feb. 1974); CPM-7406X0596

—Diffraction of laser radiation by a magnetic grating —A. A. Solomko and V. I. Mykityuk. **36**(5), 584–6 (May 1974); CPM-7409X1512

Solovev, A. A.—Observation of a dissociative recombination of a molecular helium ion in the early afterflow of a discharge —V. S. Egorov, A. A. Pastor, V. V. Samokhvalov, and A. A. Solovev. **37**(5), 563–5 (Nov. 1974)

Solovev, K. N.—Triplet-triplet energy transfer and radiationless processes in nonluminescing metalloporphyrin molecules —M. P. Tsvirko, K. N. Solovev, and V. V. Sapunov. **36**(2), 193–5 (Feb. 1974); CPM-7406X0553

—The spectroscopy of intermolecular interactions. Nauka Press, Leningrad, 1972, 246 pp. —V. V. Gruzinskii and K. N. Solovev. **37**(6), 684–5 (Dec. 1974)

Solovev, L. E.—Birefringence in crystals with isotropic points and determination of oscillator strengths for excitons in CdS by the Rozhdestvenskii hook method —I. V. Baranets, A. Kh. Zilbershtein, and L. E. Solovev. **37**(2), 164–5 (Aug. 1974)

Soloveva, A. A.—Spectroscopic study of the nature of luminescence centers in a NaCl-Tl phosphor for a wide range of activator concentrations —N. I. Ivanova, A. A. Soloveva, and L. I. Tarasova. **36**(4), 416–20 (Apr. 1974); CPM-7408X0198

Soms, L. N.—Continuous Nd:glass laser —N. M. Galaktionova, G. A. Garkavi, V. S. Zubkova, A. A. Mak, L. N. Soms, and M. M. Khaleev. **37**(1), 90–1 (Jul. 1974)

Sonin, A. S.—Experimental study of the angular intensity distribution of light scattered by liquid crystals in a dynamic–scattering regime —I. D. Samodurova, A. S. Sonin, and A. B. Uspenskii. **36**(6), 680–1 (Jun. 1974); CPM-7410X1042

—Some problems of the theory of acoustics modulating and deflecting devices —V. N. Mozhaiskii and A. S. Sonin. **37**(2), 192–5 (Aug. 1974)

Soovik, T. A.—Probabilities for radiative and nonradiative transitions in (V_k+e^-) centers in KI —P. A. Kask, R. A. Kink, G. G. Liidya, and T. A. Soovik. **37**(5), 537–40 (Nov. 1974)

Sorokin, S. V.—Out–of–synchronism harmonic excitation in nonlinear media by finite–aperture beams —V. I. Samarin, V. I. Stroganov, and S. V. Sorokin. **36**(4), 440–2 (Apr. 1974); CPM-7408X0222

Sorokin, V. V.—Investigation of the spectral dependence of the yield of slow photoelectrons from platinum and silver surfaces in the vacuum ultraviolet —G. V. Karachevtsev, V. K. Potapov, and V. V. Sorokin. **36**(5), 563–5 (May 1974); CPM-7409X1491

Soshchin, N. P.—Spectroscopy of Sm^{3+} in lanthanide and yttrium oxysulfides —T. V. Babkina, M. I. Gaiduk, L. N. Zorina, and N. P. Soshchin. **37**(4), 401–3 (Oct. 1974)

Soskin, M. S.—Rapid spectroscopy using lasers with swept lasing frequency —S. P. Anokhov, V. I. Kravchenko, and M. S. Soskin. **36**(1), 106–8 (Jan. 1974); CPM-7406X0466

Sovter, V. V.—Effective cross sections and peculiarities of electron excitation of the cadmium atom —V. V. Sovter, I. P. Zapesochnyi, and O. B. Shpenik. **36**(5), 482–6 (May 1974); CPM-7409X1410

Stalmakhova, L. S.—Variation of scattering power of molecules in binary mixtures for Raman scattering —N. K. Sidorov and L. S. Stalmakhova. **36**(1), 119–20 (Jan. 1974); CPM-7406X0479

—Concentration dependence of Raman linewidth in high–viscosity solutions —N. K. Sidorov, L. S. Stalmakhova, and G. L. Novikova. **37**(1), 48–9 (Jul. 1974)

Stanislavskii, M. P.—Radioluminescence of leucosapphire and ruby under electron excitation —T. S. Bessonova, M. P. Stanislavskii, V. I. Tumanov, and V. Ya. Khaimov–Malkov. **37**(2), 160–3 (Aug. 1974)

—Induced absorption and thermoluminescence of leucosapphire and ruby after electron irradiation —T. S. Bessonova, M. P. Stanislavskii, V. I. Tumanov, and V. Ya. Khaimov–Malkov. **37**(4), 398–400 (Oct. 1974)

Stanko, V. I.—Calculation and interpretation of the infrared spectra of ortho–and meta–dicarboclosododecaboranes —T. P. Klimova, L. A. Gribov, and V. I. Stanko. **36**(6), 650–3 (Jun. 1974); CPM-7410X1012

Starobogatov, I. O.—Observation of absorption in liquids by polarized light —A. M. Bonch–Bruevich, T. K. Razumova, and I. O. Starobogatov. **36**(4), 403–4 (Apr. 1974); CPM-7408X0185

Starodub, V. P.—Electron impact excitation of alkaline earth atoms. III: Strontium (triplets) —I. S. Aleksakhin, I. I. Garga, I. P. Zapesochnii, and V. P. Starodub. **37**(1), 10–3 (Jul. 1974)

—Electron impact excitation of alkaline earth atoms. IV: Calcium —I. I. Garga, I. S. Aleksakhin, V. P. Starodub, and I. P. Zapesochnii. **37**(5), 482–5 (Nov. 1974)

Starostin, N. V.—Energy levels of the Ce^{3+} ($4f^1$) ion in the calcite–type crystals MBO_3 (M=Sc, Lu) —N. V. Starostin and S. A. Titov. **37**(2), 158–9 (Aug. 1974)

—Band structure and optical properties of fluorite–type crystals. Part 3 —N. V. Starostin and V. A. Ganin. **37**(6), 635–8 (Dec. 1974)

Startsev, G. P.—Step–by–step excitation in helium —G. N. Gerasimov and G. P. Startsev. **36**(5), 487–8 (May 1974); CPM-7409X1415

Stashchuk, V. S.—Optical absorption of Ni–Fe alloys —N. Ya. Gorban and V. S. Stashchuk. **37**(2), 202–3 (Aug. 1974)

Stepanov, B. I.—Tuning of organic lasers —B. I. Stepanov and V. A. Batyrev. **37**(1), 92–4 (Jul. 1974)

Sterin, Kh. E.—Low–frequency Raman spectra of crystalline n–paraffins —Kh. E. Sterin and B. N. Mavrin. **37**(2), 153–4 (Aug. 1974)

Stolov, A. L.—Spectra of f–f transitions of the Eu^{2+} ion in $KMgF_3$ and $NaMgF_3$ crystals —N. S. Altshuler, L. D. Livanova, and A. L. Stolov. **36**(1), 72–5 (Jan. 1974); CPM-7406X0432

—Nature of the fine structure of Co^{2+} bands in MeF_2 —A. L. Stolov and Zh. S. Yakovleva. **36**(6), 720–1 (Jun. 1974); CPM-7410X1082

Stolov, E. G.—Synthesis of multilayer optical coatings —Sh. A. Furman and E. G. Stolov. **36**(3), 340–2 (Mar. 1974); CPM-7407X1026

—Synthesis of multilayer optical coatings for the case when the specified spectral characteristic has discontinuities —E. G. Stolov and Sh. A. Furman. **36**(6), 702–4 (Jun. 1974); CPM-7410X1064

Stolpovskaya, V. N.—Determination of the symmetry of the normal vibrations and factor–group analysis of the fluoroapatite crystal —D. K. Arkhipenko, V. N. Stolpovskaya, and B. A. Orekhov. **36**(4), 411–2 (Apr. 1974); CPM-7408X0193

Stotskii, G. I.—Measurement of the total cross section for electron impact excitation of a 5^3P_0 metastable level of cadmium —M. A. Mazing, V. I. Rakhovskii, G. I. Stotskii, and V. M. Shustryakov. **37**(4), 464–5 (Oct. 1974)

Striganov, A. R.—Resonance properties of a three–mirror multiple–beam interferometer —V. Ya. Balakhanov, V. K. Zhivotov, M. R. Krotov, A. R. Striganov, and M. D. Suleimenov. **36**(3), 331–4 (Mar. 1974); CPM-7407X1017

Stroganov, V. I.—Transient optical second–harmonic excitation with phase mismatch —G. V. Krivoshchekov, N. G. Nikulin, and V. I. Stroganov. **36**(3), 335–7 (Mar. 1974); CPM-7407X1021

—Out–of–synchronism harmonic excitation in nonlinear media by finite–aperture beams —V. I. Samarin, V. I. Stroganov, and S. V. Sorokin. **36**(4), 440–2 (Apr. 1974); CPM-7408X0222

—Interference effects during excitation of optical harmonics —V. I. Stroganov and V. I. Samarin. **37**(2), 172–4 (Aug. 1974)

Strukov, V. S.—The possibility of using relief–phase copies of Vander Lugt filters —V. I. Protasevich and V. S. Strukov. **36**(5), 601 (May 1974); CPM-7409X1529

Studenov, V. I.—Intermolecular interactions and the stimulated emission spectra of activated liquid system. 3: —V. I. Studenov and N. G. Bakhshiev. **36**(2), 226–8 (Feb. 1974); CPM-7406X0586

Suchkov, A. F.—Highly excited vibrational–rotational states of molecules by the method of selective losses in the resonator of a laser —T. P. Belikova, E. A. Sviridenkov, and A. F. Suchkov. **37**(4), 372–5 (Oct. 1974)

Sukhina, G. V.—Electronic and vibrational states of biphenyl–based molecules. 3: Determination of the polarization of the electronic and electronic–vibrational transitions of the carbazole and dibenzofuran molecules from the hypochromy in their crystal spectra —V. L. Grebneva, L. A. Nakhimovskaya, K. R. Popov, L. V. Smirnov, and G. V. Sukhina. **37**(5), 504–6 (Nov. 1974)

Sukhorukov, A. P.—Effect of thermoelastic stresses on the optical indicatrix of a uniaxial crystal —A. A. Vigasin, Yu. A. Gorokhov, D. P. Krindach, and A. P. Sukhorukov. **37**(6), 654–5 (Dec. 1974)

Sukov, A. I.—Propagation of light pulses in a nonlinear dispersive medium —A. A. Kolokolov and A. I. Sukov. **37**(3), 308–11 (Sep. 1974)

Suleimenov, M. D.—Resonance properties of a three–mirror multiple–beam interferometer —V. Ya. Balakhanov, V. K. Zhivotov, M. R. Krotov, A. R. Striganov, and M. D. Suleimenov. **36**(3), 331–4 (Mar. 1974); CPM-7407X1017

Suslina, L. G.—Spectroscopic study of the stabilization of the sphalerite structure in ZnS–Cu single crystals —L. G. Suslina and D. L. Fedorov. **36**(4), 408–10 (Apr. 1974); CPM-7408X0190

Sverchkov, E. I.—Nonradiative energy transfer in phosphate glasses activated with rare earth ions —S. L. Kraevskii, Yu. P. Rudnitskii, and E. I. Sverchkov. **36**(6), 662–5 (Jun. 1974); CPM-7410X1024

Sverdlov, B. A.—Study of some absorption lines of the water–vapor rotational spectrum in the 100–600 μm region —B. A. Sverdlov and N. I. Furashov. **36**(5), 503–6 (May 1974); CPM-7409X1431

Sverdlov, L. M.—Calculation of the vibrational spectra of methyl propionate and ethyl propionate —V. I. Vakhlyueva, N. A. Kuznetsov, L. M. Sverdlov, and A. L. Smolyanskii. **36**(3), 277–9 (Mar. 1974); CPM-7407X0963

—Centrifugal stretching constants of the ethanol molecule —I. Ya. Zemlyanukhina and L. M. Sverdlov. **36**(4), 391–2 (Apr. 1974); CPM-7408X0173

—Calculation of nonlinear susceptibilities and nonlinear indices of refraction from spontaneous Raman scattering data —N. D. Shvedova and L. M. Sverdlov. **36**(4), 443–5 (Apr. 1974); CPM-7408X0225

—Solution of the inverse vibrational problem for the phosgene molecule using vibrational–rotational constants and inertia defects —L. M. Sverdlov and L. A. Razbegaeva. **36**(6), 718–9 (Jun. 1974); CPM-7410X1080

—Sum rules for frequency squares and vibration frequencies of phenyl halides —Yu. S. Korostelev, N. A. Korosteleva, and L. M. Sverdlov. 37(2), 218–9 (Aug. 1974)

Sveshnikova, E. B.—Role of the anharmonicity of H_2O intramolecular vibrations in nonradiative deactivation of the excited states of rare earth ions —E. N. Bodunov and E. B. Sveshnikova. 36(2), 196–9 (Feb. 1974); CPM-7406X0556

—Mechanism of energy transfer from ketones to rare earth ions. 4: effect of solvent and temperature. Intramolecular and diffusion transfer —E. B. Sveshnikova, V. F. Morina, and V. L. Ermolaev. 36(4), 421–5 (Apr. 1974); CPM-7408X0203

Svich, V. A.—Submillimeter laser emission of CH_3I molecules excited by CO_2 —V. A. Svich, S. F. Dyubko, V. A. Svich, and L. D. Fesenko. 37(1), 118 (Jul. 1974)

—Submillimeter laser emission of CH_3I molecules excited by CO_2 — V. A. Svich, S. F. Dyubko, V. A. Svich, and L. D. Fesenko. 37(1), 118 (Jul. 1974)

Sviridenkov, E. A.—Highly excited vibrational–rotational states of molecules by the method of selective losses in the resonator of a laser —T. P. Belikova, E. A. Sviridenkov, and A. F. Suchkov. 37 (4), 372–5 (Oct. 1974)

Sviridov, D. T.—Configuration of $3d^3$ electrons in a trigonal field. Spectra of Fe^{3+} ions in a demantoid garnet and corundum —T. F. Veremeichik, B. N. Grechushnikov, I. N. Kalinkina, and D. T. Sviridov. 36(6), 658–61 (Jun. 1974); CPM-7410X1020

Svishchev, G. M.—Intensity fluctuations accompanying light scattering near the focus of an optical system —G. M. Svishchev. 37(1), 104–7 (Jul. 1974)

Svitashev, K. K.—Ellipsometry of inhomogeneous surface films —L. L. Vasileva, K. K. Svitashev, A. I. Semenenko, L. V. Semenenko, and V. K. Sokolov. 37(3), 325–8 (Sep. 1974)

Svotin, P. A.—Penning effect in the collision with an excited helium ion. 1. —V. A. Kvlividze and P. A. Svotin. 37(1), 7–9 (Jul. 1974)

—Penning effect in collision with an excited helium ion. 2 —V. A. Kvlividze, N. V. Laktionov, and P. A. Svotin. 37(3), 344–5 (Sep. 1974)

T

Tabakova, V.—The effect of divalent, non-activating cations on the luminescence characteristics of NaCl–Sn phosphor —K. Kynev and V. Tabakova. 37(3), 288–91 (Sep. 1974)

—Effect of divalent nonactivating cations on the luminescence characteristics of of KBr–Sn and NaBr–Sn phosphors —K. Kynev and V. Tabakova. 37(4), 414–7 (Oct. 1974)

Talanov, V. M.—Infrared spectra of spinel solid solutions and their description by the cluster components method —V. M. Talanov, B. N. Varskoi, Yu. P. Vorobev, A. A. Iovlev, A. N. Men, and A. V. Serebryakova. 37(2), 212–3 (Aug. 1974)

Tamm, T. B.—Hot vibronic transitions and lifetimes of the vibrational states of the perylene molecule —T. B. Tamm and P. M. Saari. 36 (2), 189–92 (Feb. 1974); CPM-7406X0549

Tarashchenko, P. P.—Frequency multiplication of coherent radiation in an optical microwaveguide with a nonlinear layer of lithium niobate —A. T. Reutov and P. P. Tarashchenko. 37(4), 447–8 (Oct. 1974)

Tarasova, L. I.—Spectroscopic study of the nature of luminescence centers in a NaCl–Tl phosphor for a wide range of activator concentrations —N. I. Ivanova, A. A. Soloveva, and L. I. Tarasova. 36(4), 416–20 (Apr. 1974); CPM-7408X0198

Tartakovskii, G. Kh.—Symposium on laser spectroscopy —G. Kh. Tartakovskii and V. F. Shabanov. 37(6), 689 (Dec. 1974)

Tatsenko, O. M.—The faraday effect in strong magnetic fields —V. V. Druzhinin and O. M. Tatsenko. 36(4), 426–8 (Apr. 1974); CPM-7408X0208

Telegin, G. G.—Transient processes and statistical phenomena in a He–Ne laser with a slowly varying pump parameter —V. E. Brazovskii and G. G. Telegin. 36(4), 429–30 (Apr. 1974); CPM-7408X0211

Tendler, M. B.—The effect of movement of an additional mirror on the intensity produced by a gas laser —V. I. Perel and M. B. Tendler. 37(3), 322–4 (Sep. 1974)

Terekhin, D. K.—Effect of gas pressure on low-frequency beats in a He–Ne laser —E. Yu. Andreeva, S. N. Gulyaev, and D. K. Terekhin. 36(2), 219–20 (Feb. 1974); CPM-7406X0579

Terenetskaya, I. P.—Quantitative study of the vibronic structure of the absorption spectrum of a naphthalene crystal —I. P. Terenetskaya. 36(3), 300–3 (Mar. 1974); CPM-7407X0986

—Observation of vibrations of b_{2g} symmetry in the vibronic spectra of naphthalene–h_8 and –d_8 crystals —I. P. Terenetskaya. 37(5), 560–2 (Nov. 1974)

Terentev, V. E.—Radiation of lasers with controllable phototropic shutters —G. N. Vinokurov and V. E. Terentev. 36(2), 229–32 (Feb. 1974); CPM-7406X0589

Ter-Pogosyan, M. A.—Optical saturation during high-power excitation of luminescence in the vapors of complex organic compounds —V. V. Danilov, Yu. T. Mazurenko, and M. A. Ter-Pogosyan. 37(6), 678–80 (Dec. 1974)

Terpugova, A. F.—Spectral properties of alpha-methyl and alpha-silyketones. 1: Use of the method of complete disregard of differential overlapping in studying the spectral properties of the acetone molecule —L. V. Orlovskaya, I. V. Sokolova, and A. F. Terpugova. 36(5), 512–5 (May 1974); CPM-7409X1440

Tibilov, S. S.—Triplet–triplet energy transfer involving fluorinated aromatic compounds —S. S. Tibilov and V. L. Ermolaev. 36(6), 715–6 (Jun. 1974); CPM-7410X1077

Tikhonov, E. A.—Two-photon absorption spectra of organic dye molecules —E. B. Aslanidi and E. A. Tikhonov. 37(4), 446–7 (Oct. 1974)

Tikhonravov, A. V.—Properties of absorbing multilayer interference filters —A. Yu. Klementeva and A. V. Tikhonravov. 36(4), 452–4 (Apr. 1974); CPM-7408X0234

—Effect of low absorption on the spectral characteristics of multilayer systems —A. V. Tikhonravov and A. Yu. Klementeva. 37(4), 437–9 (Oct. 1974)

Timoshenkova, Yu. D.—Calculation of the frequencies and forms of the normal vibrations of the gauche and trans rotational isomers of 2-chloro- and 2-bromoethylamine —L. V. Sennitskaya, Yu. D. Timoshenkova, Yu. A. Pentin, and B. S. Kikot. 37(2), 139–41 (Aug. 1974)

Timoshinin, V. S.—τ_{nBYs} coefficients of $(CH_3)_2X$(X = O,S,Se,Te) molecules —V. S. Timoshinin. 37(3), 343–4 (Sep. 1974)

Titov, S. A.—Energy levels of the Ce^{3+} ($4f^1$) ion in the calcite-type crystals MBO_3 (M = Sc, Lu) —N. V. Starostin and S. A. Titov. 37 (2), 158–9 (Aug. 1974)

Tkhek-de, Im—Broadening and shift of the 0.63-μm neon line under the action of the discharge current —Im Tkhek-de, V. P. Kochanov, S. G. Rautian, E. G. Saprykin, and A. M. Shalagin. 36 (2), 152–4 (Feb. 1974); CPM-7406X0512

Tolmachev, V. V.—Two-electron radial equations and calculations of pair-correlation energies for Be and Ne atoms —S. Ya. Ishchenko and V. V. Tolmachev. 37(6), 586–8 (Dec. 1974)

Tolmachev, Yu. A.—Collisions of the second kind in the afterglow of a discharge in a mixture of argon and nitrogen —O. P. Bochkova, N. V. Chernysheva, and Yu. A. Tolmachev. 36(1), 19–21 (Jan. 1974); CPM-7406X0379

—Population of highly excited mercury levels in the case of collision of two excited atoms in the $6^3P_{0,2}$ states —O. P. Bochkova, E. Gamarts, and Yu. A. Tolmachev. 36(2), 150–1 (Feb. 1974); CPM-7406X0510

—Interpretation of the pressure dependence of the effective level lifetime —Yu. A. Tolmachev. 37(5), 577–8 (Nov. 1974)

Tolstoi, N. A.—Peculiarities of the kinetics of uranyl–compound luminescence at low temperature —A. P. Abramov and N. A. Tolstoi. 37(2), 203–5 (Aug. 1974)

Tonkov, M. V.—Induction mechanism of the translational spectrum of the H_2+Ar, H_2+Kr, and H_2+Xe systems —V. A. Ryzhov and M. V. Tonkov. 37(5), 476–8 (Nov. 1974)

—Translational absorption in the spectra of noble gases —V. A. Ryzhov and M. V. Tonkov. 37(6), 606–9 (Dec. 1974)

Torgovanov, V. A.—Optical analog synthesizer —D. I. Mirovitskii, V. A. Torgovanov, and G. P. Cherkunova. 37(1), 101–3 (Jul. 1974)

Troitskii, Yu. V.—Uniform illumination using a gas laser —Yu. V. Troitskii. 37(5), 554–7 (Nov. 1974)

Tronko, V. D.—Mueller matrices for a system of identical plane–parallel layers. Part 1 —V. D. Tronko and G. P. Golovach. 37(2), 174–6 (Aug. 1974)

—Mueller matrices for a system of identical plane–parallel layers. 2 — V. D. Tronko and G. P. Golovach. 37(3), 292–4 (Sep. 1974)

—Transmission and reflection of light by a magnetooptically active plane–parallel inclined plate. Mueller matrix —V. D. Tronko and G. P. Golovach. 37(5), 547–9 (Nov. 1974)

Tsaune, A. Ya.—Hamiltonian of partly normal molecules —A. Ya. Tsaune. 36(5), 507–9 (May 1974); CPM-7409X1435

Tsenter, M. Ya.—Raman scattering in crystalline chlorine and bromine —I. V. Aleksandrov, Ya. S. Bobovich, A. V. Bortkevich, and M. Ya. Tsenter. **36**(1), 86–9 (Jan. 1974); CPM-7406X0446

Tsikora, I. L.—Efficiency of the vibrational deactivation and quenching of an electronically excited I_2 molecule—E. D. Bugrim, S. N. Makrenko, and I. L. Tsikora. **37**(6), 610–2 (Dec. 1974)

Tsoi, V. I.—Gain in Fourier spectrometry —V. I. Tsoi and T. N. Sokolova. **36**(2), 240–1 (Feb. 1974); CPM-7406X0600

—Optimal conditions for measuring Voigt–contour parameters using a Fabry–Perot etalon —V. I. Tsoi, A. G. Velichko, and M. L. Kats. **37**(6), 595–7 (Dec. 1974)

Tsulaya, T. S.—Luminescence kinetics of rigid solutions with energy transfer. 4: The law of luminescence decay of the acceptor for the transfer due to dipole–dipole interaction —M. S. Mikhelashvili, I. M. Rozman, and T. S. Tsulaya. **36**(2), 203–4 (Feb. 1974); CPM-7406X0563

Tsvirko, M. P.—Triplet–triplet energy transfer and radiationless processes in nonluminescing metalloporphyrin molecules —M. P. Tsvirko, K. N. Solovev, and V. V. Sapunov. **36**(2), 193–5 (Feb. 1974); CPM-7406X0553

—Internal heavy–atom effect in porphyrin molecules. 2: Halogen derivatives of deuteroporphyrin IX—A. T. Gradyushko, D. T. Kozhich, K. N. Sokolev, and M. P. Tsvirko. **37**(5), 510–2 (Nov. 1974)

Tsyganenko, N. M.—Infrared spectra of cryosystems. 2: Sulfur hexafluoride —V. V. Bertsev, T. D. Kolomiitseva, and N. M. Tsyganenko. **37**(3), 263–4 (Sep. 1974)

Tuchin, V. V.—Dispersion characteristic of a He–Ne laser at 0.6328 micron —G. G. Akchurin, M. L. Kats, L. A. Melnikov, V. A. Sedelnikova, and V. V. Tuchin. **37**(1), 87–9 (Jul. 1974)

Tukhvatullin, F. Kh.—Rayleigh line shape and width of aniline, quinoline, and other liquids as function of temperature —F. Kh. Tukhvatullin, F. Ganiev, A. K. Atakhodzhaev, and I. P. Kleiner. **37**(2), 144–5 (Aug. 1974)

Tulaikova, M. A.—Measurement of optical constants of materials in the 4–30 cm^{-1} region by a Michelson interferometer —F. F. Igoshin, A. P. Kiryanov, V. V. Mozhaev, M. A. Tulaikova, and A. A. Sheronov. **36**(6), 669–71 (Jun. 1974); CPM-7410X1031

Tumaikin, A. M.—Polarization and statistical properties of laser emission from the J=1—J=0 transition —V. S. Smirnov and A. M. Tumaikin. **36**(3), 315–7 (Mar. 1974); CPM-7407X1001

Tumanov, O. A.—Measurement of the pressure broadening and shift of the NH_3 vibration–rotation line (asQ(5,3) ν_2) by the method of out–of–resonance CO_2 laser radiation —V. S. Letokhov, A. G. Platova, and O. A. Tumanov. **37**(1), 29–30 (Jul. 1974)

Tumanov, V. I.—Radioluminescence of leucosapphire and ruby under electron excitation —T. S. Bessonova, M. P. Stanislavskii, V. I. Tumanov, and V. Ya. Khaimov–Malkov. **37**(2), 160–3 (Aug. 1974)

—Induced absorption and thermoluminescence of leucosapphire and ruby after electron irradiation —T. S. Bessonova, M. P. Stanislavskii, V. I. Tumanov, and V. Ya. Khaimov–Malkov. **37**(4), 398–400 (Oct. 1974)

Turchin, V. F.—Restoration of optical spectra and other nonnegative functions by the statistic regularization method —V. F. Turchin and L. S. Turovtseva. **36**(2), 162–5 (Feb. 1974); CPM-7406X0522

Turkin, N. G.—Effect of colling on the characteristics of pulsed neon superradiance —N. G. Turkin and V. P. Yakunin. **36**(6), 628–9 (Jun. 1974); CPM-7410X0990

Turovtseva, L. S.—Restoration of optical spectra and other nonnegative functions by the statistic regularization method —V. F. Turchin and L. S. Turovtseva. **36**(2), 162–5 (Feb. 1974); CPM-7406X0522

Tyuterev, V. G.—Probabilities of vibrational–rotational transitions in diatomic molecules —Yu. S. Makushkin and V. G. Tyuterev. **37** (1), 31–4 (Jul. 1974)

U

Ulenikov, O. N.—Calculation of the influence of electron–nuclear and spin interactions on the vibrational–rotational Hamiltonian of polyatomic nonlinear molecules —Yu. S. Makushkin and O. N. Ulenikov. **36**(6), 639–42 (Jun. 1974); CPM-7410X1001

Urbanovich, A. I.—Six–photon interaction between light waves in resonant media —P. A. Apanasevich and A. I. Urbanovich. **36**(4), 437–8 (Apr. 1974); CPM-7408X0219

—Theory of induced four–photon light scattering in resonant media — A. A. Afanasev and A. I. Urbanovich. **36**(5), 581–3 (May 1974); CPM-7409X1509

Usoskin, A. I.—Optical properties of thin garanular films of tellurium —I. N. Shklyarevskii, A. I. Usoskin, V. P. Lebedev, and E. N. Alekseev. **36**(4), 457–60 (Apr. 1974); CPM-7408X0239

—Approximate equations for ultrathin two–layer coatings —A. I. Usoskin and I. N. Shklyarevskii. **36**(5), 603–4 (May 1974); CPM-7409X1531

—Nature of light absorption by bismuth and tellurium island films — A. I. Usoskin and I. N. Shklyarevskii. **36**(6), 675–7 (Jun. 1974); CPM-7410X1037

Uspenskii, A. B.—Experimental study of the angular intensity distribution of light scattered by liquid crystals in a dynamic–scattering regime —I. D. Samodurova, A. S. Sonin, and A. B. Uspenskii. **36**(6), 680–1 (Jun. 1974); CPM-7410X1042

V

Vagin, I. N.—Copying holograms by stamping on a thermoplastic — I. N. Vagin and A. E. Shtanko. **36**(5), 597–8 (May 1974); CPM-7409X1525

Vaitkus, Yu. Yu.—Dependence of the two–photon absorption coefficient on the thickness of CdS single crystals —R. A. Baltrameyunas, Yu. Yu. Vaitkus, Yu. K. Vishchakas, and V. I. Gavryushin. **36**(6), 714–5 (Jun. 1974); CPM-7410X1076

Vakhlyueva, V. I.—Calculation of the vibrational spectra of methyl propionate and ethyl propionate —V. I. Vakhlyueva, N. A. Kuznetsov, L. M. Sverdlov, and A. L. Smolyanskii. **36**(3), 277–9 (Mar. 1974); CPM-7407X0963

Vakhromeev, V. G.—Dependence of optical absorption of sodium borate glass on the electron irradiation dose —V. G. Vakhromeev and S. P. Zinoveva. **36**(2), 246–7 (Feb. 1974); CPM-7406X0606

Vala, A. P.—Fine structure of the terms of $1s^2\ 2s^N,\ 2p^N$ configurations —A. P. Vala and R. S. Dagis. **36**(4), 363–5 (Apr. 1974); CPM-7408X0145

Valbov, A. N.—Submillimeter spectrum and intermolecular parameters —A. V. Burenin, A. N. Valbov, L. I. Gershtein, E. N. Karyakin, A. F. Krupnov, A. V. Maslovskii, and S. M. Shchapin. **37**(6), 676–8 (Dec. 1974)

Vanbynkov, E. A.—New data on the quasilinear fluorescence spectrum of anthracene vapor —S. O. Mirumyants, E. A. Vanbynkov, Yu. S. Demchuk, and Yu. S. Nagulin. **36**(1), 52–4 (Jan. 1974); CPM-7406X0412

Varskoi, B. N.—Infrared spectra of spinel solid solutions and their description by the cluster components method —V. M. Talanov, B. N. Varskoi, Yu. P. Vorobev, A. A. Iovlev, A. N. Men, and A. V. Serebryakova. **37**(2), 212–3 (Aug. 1974)

Vasilev, L. A.—Investigation of an interferometer with a diffraction grating to study streamline flow around models in shock–wave tunnels —L. A. Vasilev and I. V. Ershov. **36**(6), 695–8 (Jun. 1974); CPM-7410X1057

Vasileva, I. A.—Possibility of determining the parameters of an optically dense inhomogeneous low–temperature plasma using the integral emission intensities of self–reversed lines —I. A. Vasileva, B. Ya. Shumyatskii, and D. N. Yundev. **36**(2), 155–8 (Feb. 1974); CPM-7406X0515

Vasileva, L. L.—Ellipsometry of inhomogeneous surface films —L. L. Vasileva, K. K. Svitashev, A. I. Semenenko, L. V. Semenenko, and V. K. Sokolov. **37**(3), 325–8 (Sep. 1974)

Vatrushkin, A. I.—Laser doppler velocimeter with compensation of additive components of interference and noise —A. I. Vatrushkin, Yu. N. Dubnishchev, and T. Ya. Popova. **36**(6), 690–1 (Jun. 1974); CPM-7410X1052

Vedernikova, E. A.—Scattering of optical radiation by a system of closely spaced scatters —E. A. Vedernikova and M. V. Kabanov. **37**(1), 71–4 (Jul. 1974)

Velichko, A. G.—Optimal conditions for measuring Voigt–contour parameters using a Fabry–Perot etalon —V. I. Tsoi, A. G. Velichko, and M. L. Kats. **37**(6), 595–7 (Dec. 1974)

Veremei, V. V.—Computation of thin–layer coatings with specified optical properties —I. M. Minkov and V. V. Veremei. **37**(5), 571–3 (Nov. 1974)

Veremeichik, T. F.—Configuration of $3d^5$ electrons in a trigonal field. Spectra of Fe^{3+} ions in a demantoid garnet and corundum —T. F. Veremeichik, B. N. Grechushnikov, I. N. Kalinkina, and D. T. Sviridov. **36**(6), 658–61 (Jun. 1974); CPM-7410X1020

Verkhovtseva, E. T.—Continuous spectrum in the vacuum ultraviolet region emitted by a supersonic argon jet excited by an electron beam —E. T. Verkhovtseva, V. I. Yaremenko, A. E. Ovechkin, and Ya. M. Fogel. **37**(2), 126–8 (Aug. 1974)

Verolainen, Ya. F.—Lifetimes of the $^3P_1$ level of YbI and the $^2P^0_{3/2,1/2}$ level of YbII —M. L. Burshtein, Ya. F. Verolainen, V. A. Komarovskii, A. L. Osherovich , and N. P. Penkin. **37**(4), 351–2 (Oct. 1974)

Vesnicheva, G. A.—Measurement of the rate of decay of resonance levels —G. A. Vesnicheva and T. P. Redko. **37**(1), 16–9 (Jul. 1974)

Vetchinkin, S. I.—Sturm expansion of a two-particle Coulomb Green's function —S. V. Khristenko and S. I. Vetchinkin. **37**(6), 583–5 (Dec. 1974)

Vigasin, A. A.—Effect of thermoelastic stresses on the optical indicatrix of a uniaxial crystal —A. A. Vigasin, Yu. A. Gorokhov, D. P. Krindach, and A. P. Sukhorukov. **37**(6), 654–5 (Dec. 1974)

Viktorova, E. N.—Effect of deuteration of the solvent on the rate constants for fluorescence quenching in solutions of organic luminors —A. V. Aristov, E. N. Viktorova, and A. P. Serov. **37**(5), 576–7 (Nov. 1974)

Vilesov, F. I.—Photoelectron spectra of a number of substitution products of thiophosphoryl chloride —V. I. Vovna, S. N. Lopatin, R. Pettsold, F. I. Vilesov, and M. E. Akopyan. **36**(1), 99–102 (Jan. 1974); CPM-7406X0459

—Photoelectron spectra and the structure of molecular orbitals of methyl amines —V. I. Vovna and F. I. Vilesov. **36**(2), 251–2 (Feb. 1974); CPM-7406X0611

—Bimolecular ionization of excited CH_3I molecules —V. S. Ivanov and F. I. Vilesov. **36**(5), 602–3 (May 1974); CPM-7409X1530

Vinogradov, A. S.—K-absorption spectrum of nitrogen in the N_2 molecule —A. S. Vinogradov, B. Shlarbaum, and T. M. Zimkina. **36**(4), 383–5 (Apr. 1974); CPM-7408X0165

Vinogradov, G. A.—Optical absorption in the long-wavelength region and paramagnetism of polymers with conjugated bonds —A. A. Berlin, G. A. Vinogradov, and A. A. Ovchinnikov. **36**(3), 354–5 (Mar. 1974); CPM-7407X1040

Vinogradov, I. P.—Absorption spectra of bases of nucleic acids (110–300 nm) and their luminescence excited in the vacuum ultraviolet region —I. P. Vinogradov, V. V. Zemskikh, and N. Ya. Dononova. **36**(3), 344–5 (Mar. 1974); CPM-7407X1030

Vinogradov, V. I.—Drift of excited neon atoms in a discharge —V. I. Vinogradov and A. V. Eletskii. **37**(5), 486–8 (Nov. 1974)

Vinogradov, V. Yu.—Continuum intensity of an air plasma at T = 20,000 K —V. Yu. Vinogradov, L. S. Nikolaevskii, and I. V. Podmoshenskii. **37**(2), 222 (Aug. 1974)

Vinogradova, V. N.—Arbitrariness in the selection of symmetry coordinates —I. N. Godnev, V. N. Vinogradova, and M. I. Godneva. **37**(3), 253–6 (Sep. 1974)

Vinokurov, G. N.—Radiation of lasers with controllable phototropic shutters —G. N. Vinokurov and V. E. Terentev. **36**(2), 229–32 (Feb. 1974); CPM-7406X0589

Vishchakas, Yu. K.—Dependence of the two-photon absorption coefficient on the thickness of CdS single crystals —R. A. Baltrameyunas, Yu. Yu. Vaitkus, Yu. K. Vishchakas, and V. I. Gavryushin. **36**(6), 714–5 (Jun. 1974); CPM-7410X1076

Vitlina, R. Z.—Charge exchange between an atomic ion and a dipolar molecule —R. Z. Vitlina. **37**(5), 559–60 (Nov. 1974)

Vlasenko, N. A.—Franz–Keldysh effect in the emission of electroluminescent films —N. A. Vlasenko, Yu. V. Kopytko, and V. S. Khomchenko. **37**(4), 442–3 (Oct. 1974)

Vlasov, N. G.—Geometric parameters of objects studied by using shift interferometry —N. G. Vlasov, Yu. P. Presnyakov, and E. G. Semenov. **37**(2), 210–2 (Aug. 1974)

Voishvillo, N. A.—Light reflection from scattering media with refracting boundaries —N. A. Voishvillo. **36**(6), 678–9 (Jun. 1974); CPM-7410X1040

—Gurevich–Kubelka–Munk theory for scattering sheets with two reflecting boundaries —N. A. Voishvillo. **37**(1), 75–8 (Jul. 1974)

Voitovich, A. P.—Using nonlinear effects in a gas laser to measure isotope shift —A. P. Voitovich and A. P. Shkadarevich. **36**(2), 223–5 (Feb. 1974); CPM-7406X0583

Volnyets, G. A.—Rotational structure of the 5472–5463Å band of calcium oxide —G. A. Volnyets, G. V. Kovalenok, and V. A. Sokolov. **36**(5), 609–700 (May 1974); CPM-7409X1537

Volodko, L. V.—Depolarization of fluorescence during decay, using multichannel time analysis —L. V. Volodko, M. I. Demchuk, I. N. Kozlov, A. M. Sarzhevskii, and A. F. Chernyavski. **37**(4), 392–4 (Oct. 1974)

Volosov, V. D.—Spectral, angular, and temperature characteristics of HIO_3, $LiIO_3$, CDA, DKDP, KDP, and ADP nonlinear crystals in second- and fourth-harmonic generation —R. B. Andreev, V. D. Volosov, and A. G. Kalintsev. **37**(2), 169–71 (Aug. 1974)

—Calculation of directions of phase matching in collinear and vector interaction of waves in different crystals —V. D. Volosov and A. G. Kalintsev. **37**(4), 426–7 (Oct. 1974)

Volyar, A. V.—Polarization of light in light-guides of square shape —L. M. Kuchikyan and A. V. Volyar. **36**(5), 595–6 (May 1974); CPM-7409X1523

Vorobev, F. A.—Quantum phenomena in coherent-radiation transfer. Part 1 —F. A. Vorobev and R. I. Sokolovskii. **36**(6), 625–7 (Jun. 1974); CPM-7410X0987

Vorobev, V. S.—Filling of high-excitation states of cesium atoms —V. S. Vorobev and A. I. Gleizer. **37**(4), 450 (Oct. 1974)

Vorobev, Yu. P.—Infrared spectra of spinel solid solutions and their description by the cluster components method —V. M. Talanov, B. N. Varskoi, Yu. P. Vorobev, A. A. Iovlev, A. N. Men, and A. V. Serebryakova. **37**(2), 212–3 (Aug. 1974)

Voronko, Y. K.—Thermoluminescence of $Y_3Al_5O_{12}$-RE crystals —S. Kh. Batygov, Y. K. Voronko, B. I. Denker, and V. S. Radyukhin. **36**(1), 70–1 (Jan. 1974); CPM-7406X0430

Vorontsov, A. V.—Infrared emission of carbon dioxide in the 3000–8500 K temperature range —A. A. Konkov and A. V. Vorontsov. **36**(3), 267–70 (Mar. 1974); CPM-7407X0953

—Experimental study of the radiation of H_2O and OH fundamental bands at high temperatures —A. A. Konkov and A. V. Vorontsov. **36**(4), 378–80 (Apr. 1974); CPM-7408X0160

Votyakov, S. L.—Level crossover in the ground and excited states in a zero field during alignment of Hg^{201} atoms by the 2537 Å line —L. N. Novikov and S. L. Votyakov. **36**(2), 138–40 (Feb. 1974); CPM-7406X0498

—Lineshape of nuclear magnetic resonance of optically oriented Hg^{201} atoms —O. A. Bartenev, S. L. Votyakov, and L. N. Novikov. **36**(5), 493–4 (May 1974); CPM-7409X1421

—Nuclear magnetic resonance of optically oriented atoms induced by a nonuniform static transverse magnetic field —L. N. Novikov, S. L. Votyakov, and V. P. Putyrskii. **36**(5), 495–6 (May 1974); CPM-7409X1423

—Line shape for a nuclear magnetic resonance of an optically oriented atomic system in a nonuniform radiofrequency field —S. L. Votyakov, S. P. Dovgopol, L. N. Novikov, and V. P. Putyrskii. **36**(6), 611–4 (Jun. 1974); CPM-7410X0973

Vovna, V. I.—Photoelectron spectra of a number of substitution products of thiophosphoryl chloride —V. I. Vovna, S. N. Lopatin, R. Pettsold, F. I. Vilesov, and M. E. Akopyan. **36**(1), 99–102 (Jan. 1974); CPM-7406X0459

—Photoelectron spectra and the structure of molecular orbitals of methyl amines —V. I. Vovna and F. I. Vilesov. **36**(2), 251–2 (Feb. 1974); CPM-7406X0611

Vukstich, V. S.—Excitation of resonance lines of K II in electron–atom collisions —V. S. Vukstich, I. S. Aleksakhin, and I. P. Zapesochnyi. **36**(5), 604–5 (May 1974); CPM-7409X1532

Vydrik, A. A.—Temperature dependence of the non-equilibrium luminescence of pairs of second neighbors of chromium ions in ruby —A. A. Vydrik, L. P. Nikitin, A. Ya. Ryskin, and Z. M. Khashkhozhev. **37**(3), 347–8 (Sep. 1974)

Y

Yaek, I. V.—Investigation of luminescence centers in natural diamonds —M. V. Lukyanovich, I. V. Yaek, and A. S. Kuznetsov. **36**(5), 549–52 (May 1974); CPM-7409X1477

Yakhontova, V. E.—Charge exchange between helium ions and mercury atoms —I. P. Bogdanova, V. D. Marusin, and V. E. Yakhontova. **37**(4), 365–8 (Oct. 1974)

Yakobson, N. N.—Hyperfine relaxation of Rb^{87} atoms in buffer gases —N. N. Yakobson. **37**(3), 225–6 (Sep. 1974)

Yakovleva, A. V.—Plasma production by photoionization of a gas —I. V. Dvornikov, L. V. Kulagina, I. V. Podmoshenskii, and A. V. Yakovleva. **36**(1), 22–3 (Jan. 1974); CPM-7406X0382

Yakovleva, V. I.—Kinetics of filling of helium levels excited by an electron beam —I. P. Bogdanova, S. E. Erish, and V. I. Yakovleva. **37**(4), 462–4 (Oct. 1974)

Yakovleva, Zh. S.—Nature of the fine structure of Co^{2+} bands in MeF_2 —A. L. Stolov and Zh. S. Yakovleva. **36**(6), 720–1 (Jun. 1974); CPM-7410X1082

Yakunin, V. P.—Effect of colling on the characteristics of pulsed neon superradiance —N. G. Turkin and V. P. Yakunin. **36**(6), 628–9 (Jun. 1974); CPM-7410X0990

Yankauskas, Z. K.—Velocity of light in a dielectric in a magnetic field —Z. K. Yankauskas. **36**(3), 356–7 (Mar. 1974); CPM-7407X1042

Yankovskii, V. A.—Mechanism of ozone formation in the molecular–oxygen glow discharge —L. E. Khvorostovskaya and V. A. Yankovskii. **37**(1), 13–5 (Jul. 1974)

Yaremenko, V. I.—Continuous spectrum in the vacuum ultraviolet region emitted by a supersonic argon jet excited by an electron beam —E. T. Verkhovtseva, V. I. Yaremenko, A. E. Ovechkin, and Ya. M. Fogel. **37**(2), 126–8 (Aug. 1974)

Yaremko, R. V.—Exiton states of some pure and mixed molecular crystals. 3: Electronic spectra of crystalline solutions of p–dichorobenzene and p–chlorobromobenzene, and of p–dibromobenzene and p–chlorobromobenzene —G. V. Klimusheva, A. T. Rudchik, and R. V. Yaremko. **36**(4), 405–7 (Apr. 1974); CPM-7408X0187

Yarovaya, R. G.—Ellipsometric method for measuring optical constants and thickness of thin absorbing films on metal substrates —I. N. Shklyarevskii, A. F. A. El Shazli, R. G. Yarovaya, and V. P. Kostyuk. **36**(1), 116–8 (Jan. 1974); CPM-7406X0476

Yarunin, V. S.—Spin–orbital coupling and the relative intensities of forbidden transitions in I_2 and IX molecules —V. S. Yarunin and V. A. Ganin. **37**(5), 495–7 (Nov. 1974)

Yashchuk, V. N.—Influence of the transfer of electronic energy on the luminescence of styrene monomer containing a trace of polystyrene —Yu. N. Demikhov, A. N. Faidysh, and V. N. Yashchuk. **37**(4), 389–91 (Oct. 1974)

Yudin, S. F.—Transverse distribution of amplification in discharge gaps of concentric and sector cross sections —V. E. Privalov and S. F. Yudin. **37**(5), 566–7 (Nov. 1974)

Yudovich, M. E.—Liquid optical component that uses attenuated total internal reflection with a variable number of reflections —G. V. Saidov and M. E. Yudovich. **36**(6), 707–8 (Jun. 1974); CPM-7410X1069

Yundev, D. N.—Possibility of determining the parameters of an optically dense inhomogeneous low–temperature plasma using the integral emission intensities of self–reversed lines —I. A. Vasileva, B. Ya. Shumyatskii, and D. N. Yundev. **36**(2), 155–8 (Feb. 1974); CPM-7406X0515

Yuzhakov, V. I.—Concentration quenching of luminescence in alcohol solutions of rhodamine dyes —L. V. Levshin, E. Yu. Bekhli, T. D. Slavnova, and V. I. Yuzhakov. **36**(3), 290–3 (Mar. 1974); CPM-7407X0976

Z

Zadokhin, B. S.—Vibration spectrum and optical constants of $ZnGeP_2$ single crystals—Yu. F. Markov, V. S. Grigoreva, B. S. Zadokhin, and T. V. Rybakova. **36**(1), 93–5 (Jan. 1974); CPM-7406X0453

Zakharenko, Yu. G.—Striation modulation of He–Ne laser emission —Yu. G. Zakharenko. **37**(5), 565–6 (Nov. 1974)

Zakharov, G. M.—Luminescence and color centers in LiF single crystals under x–ray excitation —N. N. Ershov, G. M. Zakharov, T. I. Nikitinskaya, and P. A. Rodnyi. **36**(1), 122–3 (Jan. 1974); CPM-7406X0482

Zakharov, I. A.—Character of the change in lifetime during oxygen quenching of the afterglow of adsorbates —I. A. Zakharov, T. I. Grishaeva, and V. B. Aleskovskii. **36**(5), 541–4 (May 1974); CPM-7409X1469

Zakharov, V. P.—Vibrational spectra of rhombically distorted preovskites —A. S. Knyazev, V. P. Zakharov, and Yu. M. Poplavko. **36**(5), 556–8 (May 1974); CPM-7409X1484

Zakshetskaya, T. Ya.—Possibility of a single approach to the classical and holographic methods of producing an optical image —T. Ya. Zakshetskaya, L. V. Kovalskii, and V. K. Polyanskii. **37**(1), 95–7 (Jul. 1974)

Zalesskaya, G. A.—Characteristics of the formation of infrared absorption bands of polyatomic vapor molecules —N. A. Borisevich and G. A. Zalesskaya. **37**(1), 38–40 (Jul. 1974)

—Rotation of polyatomic molecules in vapors using infrared absorption band profiles —G. A. Zalesskaya and V. A. Lastochkina. **37**(5), 501–3 (Nov. 1974)

Zapesochnii, I. P.—Electron impact excitation of alkaline earth atoms. III: Strontium (triplets) —I. S. Aleksakhin, I. I. Garga, I. P. Zapesochnii, and V. P. Starodub. **37**(1), 10–3 (Jul. 1974)

—Electron impact excitation of alkaline earth atoms. IV: Calcium —I. I. Garga, I. S. Aleksakhin, V. P. Starodub, and I. P. Zapesochnii. **37**(5), 482–5 (Nov. 1974)

Zapesochnyi, I. P.—Effective cross sections and peculiarities of electron excitation of the cadmium atom —V. V. Sovter, I. P. Zapesochnyi, and O. B. Shpenik. **36**(5), 482–6 (May 1974); CPM-7409X1410

—Excitation of resonance lines of K II in electron–atom collisions — V. S. Vukstich, I. S. Aleksakhin, and I. P. Zapesochnyi. **36**(5), 604–5 (May 1974); CPM-7409X1532

Zasavitskii, I. I.—Interferometric measurements of the linewidths of the emission of a pulsed PbSe injection laser —V. A. Ageikin, I. I. Zasavitskii, V. G. Koloshnikov, A. I. Likhter, E. G. Pel, and A. P. Shotov. **36**(4), 471–2 (Apr. 1974); CPM-7408X0253

Zayats, V. A.—Experiments on the electron impact excitation of beryllium atoms —I. S. Aleksakhin and V. A. Zayats. **36**(6), 717 (Jun. 1974); CPM-7410X1079

Zazubovich, S. G.—Polarized luminescence of Sn^{2+} centers of cubic symmetry in alkali halide crystals —S. G. Zazubovich. **37**(4), 404–6 (Oct. 1974)

Zege, E. P.—Asymptotic time–dependent laws of radiation attenuation in media of various geometries —E. P. Zege, I. L. Katsev, and A. M. Lazaruk. **37**(6), 646–50 (Dec. 1974)

Zellikovich, I. S.—Production of holographic interferograms using cw and pulsed multimode lasers —A. F. Belozerov and I. S. Zeilikovich. **36**(4), 435–6 (Apr. 1974); CPM-7408X0217

Zelikina, G. Ya.—Separation of the contributions from universal intermolecular interactions and intermolecular interactions and intermolecular hydrogen bonds to the observed shifts of electronic bands. 3: Study of the $n\rightarrow\sigma^*$ band of certain aliphatic ketones — G. Ya. Zelikina and T. G. Meister. **36**(1), 46–8 (Jan. 1974); CPM-7406X0406

—Separation of the contributions from universal intermolecular interactions and intermolecular hydrogen bonding in the observed shifts of electronic bands. 4: Electronic transitions of different character ($n\rightarrow\pi^*$ and $\pi\rightarrow\pi^*$) —T. G. Meister, G. Ya. Zelikina, L. V. Golovina, and V. V. Fesik. **37**(5), 516–20 (Nov. 1974)

Zelikman, P. I.—Effect of intermolecular interactions on the vibrational spectra of molecules. 12: Statistical character of the manifestation of intermolecular forces and rotational motion in the shape of vibrational–rotational bands of simple molecules in solution —G. I. Baranova, P. I. Zelikman, and N. G. Bakhshiev. **36**(1), 41–5 (Jan. 1974); CPM-7406X0401

Zemlyanukhina, I. Ya.—Centrifugal stretching constants of the ethanol molecule —I. Ya. Zemlyanukhina and L. M. Sverdlov. **36** (4), 391–2 (Apr. 1974); CPM-7408X0173

Zemskikh, V. V.—Absorption spectra of bases of nucleic acids (110–300 nm) and their luminescence excited in the vacuum ultraviolet region —I. P. Vinogradov, V. V. Zemskikh, and N. Ya. Dononova. **36**(3), 344–5 (Mar. 1974); CPM-7407X1030

Zemtsov, Yu. K.—Calculation of autoionization probabilities for helium and heliumlike ions —Yu. K. Zemtsov. **37**(4), 356–8 (Oct. 1974)

Zhabotinskii, M. E.—Spectral luminescence study of solutions of active Nd^{3+} centers in $POCl_3+SnCl_4$ —T. K. Andreeva, M. E. Zhabotinskii, L. V. Levkin, and V. I. Ralchenko. **37**(5), 529–32 (Nov. 1974)

Zhigula, L. A.—Infrared spectra of a cryosystem: carbon tetrafluoride —R. Akhmedzhanov, V. V. Bertsev, M. O. Bulanin, and L. A. Zhigula. **36**(6), 709–10 (Jun. 1974); CPM-7410X1071

Zhilich, A. G.—Electroabsorption of polarized light in the region of the yellow exciton series of a Cu_2 crystal; a theory —A. G. Zhilich and B. S. Monozon. **36**(1), 80–2 (Jan. 1974); CPM-7406X0440

Zhitlova, I. V.—Calculation of the infrared spectral absorption curve of poly(ethylene glycol adipate) —L. A. Gribov, I. V. Zhitlova, and O. I. Kondratov. **36**(5), 532–4 (May 1974); CPM-7409X1460

Zhitnikov, R. A.—Collision depolarization of optically oriented Xe atoms in a metastable $^3P_2$ state at nitrogen and room temperatures —R. A. Zhitnikov and A. I. Okunevich. **36**(2), 253–4 (Feb. 1974); CPM-7406X0613

Zhivotov, V. K.—Resonance properties of a three–mirror multiple–beam interferometer —V. Ya. Balakhanov, V. K. Zhivotov, M. R. Krotov, A. R. Striganov, and M. D. Suleimenov. **36**(3), 331–4 (Mar. 1974); CPM-7407X1017

Zhizhin, G. N.—Davydov splitting in the vibrational spectra of molecular crystals. 3: Variation of Davydov splitting with concentration in their spectrum of crystalline solutions of cyclohexane in cyclohexane-d_{12} —M. A. Moskaleva and G. N. Zhizhin. **36**(5), 535–6 (May 1974); CPM-7409X1463

—Davydov splitting in the vibrational spectra of molecular crystals. 4. Mixed crystals of naphthalene and naphthalene-d_8 —G. N. Zhizhin and M. A. Moskaleva. **37**(1), 52–4 (Jul. 1974)

Zhuravlev, V. A.—Negative absorption in the region of laser-emission focusing with free–free transitions —V. A. Zhuravlev and G. D. Petrov. **37**(4), 441–2 (Oct. 1974)

Zilbershtein, A. Kh.—Birefringence in crystals with isotropic points and determination of oscillator strengths for excitons in CdS by the Rozhdestvenskii hook method —I. V. Baranets, A. Kh. Zilbershtein, and L. E. Solovev. **37**(2), 164–5 (Aug. 1974)

Zilitis, V. A.—Oscillator strengths for resonance lines of atoms of the group II elements —V. A. Zilitis. **36**(4), 366–8 (Apr. 1974); CPM-7408X0148

Zimin, E. P.—Light scattering by a polydisperse system of large spherical particles —E. P. Zimin and A. M. Krugerskii. **37**(3), 337–9 (Sep. 1974)

Zimkina, T. M.—K-absorption spectrum of nitrogen in the N_2 molecule —A. S. Vinogradov, B. Shlarbaum, and T. M. Zimkina. **36**(4), 383–5 (Apr. 1974); CPM-7408X0165

Zinoveva, S. P.—Dependence of optical absorption of sodium borate glass on the electron irradiation dose —V. G. Vakhromeev and S. P. Zinoveva. **36**(2), 246–7 (Feb. 1974); CPM-7406X0606

Zolotarev, V. M.—Spectra of frustrated multiple internal reflection of powders and fibers —V. M. Zolotarev. **37**(3), 295–7 (Sep. 1974)

Zon, B. A.—Quadratic Stark effect in a partially polarized field —B. A. Zon. **36**(5), 489–92 (May 1974); CPM-7409X1417

Zorina, L. N.—Spectroscopy of Sm^{3+} in lanthanide and yttrium oxysulfides —T. V. Babkina, M. I. Gaiduk, L. N. Zorina, and N. P. Soshchin. **37**(4), 401–3 (Oct. 1974)

Zuban, V. A.—Optical properties of films of metaselenoarsenites of alkali metals —A. V. Lada, V. A. Zuban, A. N. Borets, and M. I. Golovei. **37**(3), 329–31 (Sep. 1974)

Zubkov, L. A.—Depolarization part of scattered light in liquids with anisotropic molecules —L. A. Zubkov and N. B. Rozhdestvenskaya. **37**(3), 298–300 (Sep. 1974)

Zubkova, I. A.—Excitation of Ar II, Kr II, and Xe II ions by He and Ne metastable atoms in the afterglow of a glow discharge —O. P. Bochkova, I. A. Zubkova, and S. E. Frish. **36**(1), 16–8 (Jan. 1974); CPM-7406X0376

Zubkova, V. S.—Continuous Nd:glass laser —N. M. Galaktionova, G. A. Garkavi, V. S. Zubkova, A. A. Mak, L. N. Soms, and M. M. Khaleev. **37**(1), 90–1 (Jul. 1974)

Zusman, L. D.—Quenching of luminescence when migration of excitation in solid solutions is present —L. D. Zusman. **36**(3), 287–9 (Mar. 1974); CPM-7407X0973

Zverev, V. A.—Estimate of the influence of loval distortions of a wavefront on optical image quality —V. A. Zverev, S. A. Rodionov, and M. N. Sokolskii. **36**(4), 461–3 (Apr. 1974); CPM-7408X0243

—Optimal balancing of spherical aberration and choosing the plane of best placing in the systems with central screening —V. A. Zverev, S. A. Rodionov, M. N. Sokolsii, and N. I. Khlusova. **37**(6), 660–3 (Dec. 1974)

This index is based on the 1974 *Physics and Astronomy Classification Scheme* developed by AIP. It is not a translation. It was produced by computer-aided photocomposition directly from the magnetic tapes of the AIP's Current Physics Information System. Suggestions for improvements as well as other comments are welcome and should be addressed to the Editor.

A new feature introduced in this index is the inclusion of microfilm reel and frame numbers for the convenience of those wishing to find articles in *Current Physics Microform* (CPM), the monthly microfilm edition of the complete set of journals of the American Institute of Physics. These numbers are given in the form **CPM-7201A0321**, where 72 refers to the year, 01 denotes the month (January in this example), A the cartridge (generally there are four cartridges every month: A,B,C,D), and 0321 the frame.

BLANK PAGE

BLANK PAGE